HubKey Case Study



An Altova customer OEMs MapForce and XMLSpy to use as the mapping and XML development components of their Microsoft[®] Sharepoint[®]-based EDI management application.

Overview

HubKey is a technology company offering e-commerce solutions and services to small and mid-sized organizations. Their flagship product, ILXA, is a hosted application that uses the document and workflow management capabilities of Microsoft Sharepoint, combined with the power and flexibility of Altova MapForce and XMLSpy, to deliver a scalable, end-to-end, businessto-business (B2B) solution for outsourced EDI.

ILXA builds an intuitive user interface and superior content management controls and functionality around e-commerce/EDI data sources, giving customers the freedom to quickly and accurately process electronic transactions without the need for costly software and hardware systems.

The Challenge

The HubKey team wanted to build a comprehensive EDI management and translation system that would give their clients the ability to track their EDI transactions across a customized workflow and also transform the messages into virtually any other data format.

EDI systems are required to handle a large and constant flow of transactions going back and forth between trading partners. While the actual volume of the data being transmitted is often very small, the amount of individual communications can be overwhelming. HubKey ILXA contains the chaos of EDI automation by giving organizations the ability to view and manage tasks and processes in batches or on-the-fly.

Recognizing an increasing demand for B2B integration systems that comply with both EDI and XML, HubKey decided to build a platform that had powerful support for both data formats and could generate application code to automate these translations. Complex EDI-XML and XML-EDI mappings would run behind-the-scenes, but users would be able to access these mappings, as well as the raw data, for quality assurance and error fixing.

The Solution

HubKey ILXA is a hosted e-commerce solution that gives non-technical end users the ability to seamlessly manage their EDI transactions without being exposed to complex data syntax. To easily manage the document workflow, HubKey chose to build their system on top of the Sharepoint platform, creating a customizable .NET application with advanced functionality for a collaborative workflow environment. The ILXA system draws upon the versatility and quality control capabilities of XML, with EDI-XML conversion powered by Altova MapForce. The end result is sophisticated translation software combined with validation and workflow management capabilities, all in one easy-to-use system.

- **Translator** eIDverifier standardizes and screens applicant-provided information to test for data inconsistencies and irregularities.
- Tasks Engine gives users a Web-based interface through which to view and orchestrate document management tasks
- Business Rules Engine handles data validation, alerts, substitutions, and more through generic or specific processing rules devised by the user



ILXA is delivered to customers in the form of a personalized, secure Web portal. Connections are easily set up between backend accounting/ ERP systems (including technologies from Microsoft, Sage Software®, Exact®, and Intuit®) and member trading partners for sending and receiving messages via virtually any connectivity

Translator

Using the data transformation and code generation capabilities of MapForce, ILXA translates raw EDI data into XML based on generic XML Schemas (developed using Altova XMLSpy) stored on the system. Once in XML, the data becomes much more usable within the option (AS2, VAN, HTTP, etc.). The modularity of the ILXA system, combined with the experienced solution providers at HubKey, work together to make setting up the system a seamless process that can be implemented and up and running within 24 hours.

Sharepoint environment, enabling users to work easily with messages and respond to tasks. Non-technical users can create workflows, assign tasks, and send and receive messages within the ILXA interface without even seeing a line of EDI or XML code.

ILXA	rder Management	ale				Welcome
	Sales Order Tas		istomer 3014			
	Create a cross referenc	e between the c	ustomer identifiers your trading partner	is using and your identifier cod	les.	
	Customer Section					
	Trading Partner Customer This information is being sent by your trading partner.	Trading Partner Customer ID: 3014 Partner Customer Name:		Your customer This information is from your system.	Customer II BUY001 Customer N	ame:
		Henrietta buy bu	uy Baby		BUY B	UY BABY, INC.
		Address:	E Choose ShipTo Webpage Dialog		X	ST GATE BLVD. CITY, NY 11530
		Contact:	Name BUY BUY BABY - CANTON BUY BUY BABY - CHELSEA		*	E E
	■ ShipTo Section		BUY BUY BABY - CHERRY HILL			
	Trading Partner ShipTo This information is being sent by your trading partner.	Trading Partner ShipT 3014 Partner ShipTo Name Henrietta buy b Address:	BUY BUY BABY - COLUMBUS (EASTON) BUY BUY BABY - DOWNERS GROVE BUY BUY BABY - GARDEN CITY EAST BUY BUY BABY - PARAMUS BUY BUY BABY - ROCKVILLE BUY BUY BABY - SCARSDALE BUY BUY BABY - SCARSDALE BUY BUY BABY - TOTOWA BUY BUY BABY - TOTOWA BUY BUY BABY - UTICA BUY BUY BABY , INC. BUYBUY BABY HUNTINGTON STATION Found 14 matches.			t specify a value for ired field.
	🗄 Raw EDI			ОК	Cancel	
1],

However, if changes or adjustments need to be made, ILXA customers are given the freedom to apply these in-house using the data maps saved in the SharePoint document library.

MapForce's intuitive graphical interface enables users to redraw connections, add functions from the function library, and apply filters to the mappings. Any saved changes cause compiled code to be saved back to the system and will affect ensuing automated transformations.

Sales C)rder	Management			This List: Maps	•	Q	
Home Partners Sale	s Order	Management Point of Sale				Site	Actions 🔻	
	нирке Ма	y ILXA - Lansinoh > Sales Order Management > Maps DS						
View All Site Content	New	✓ Upload ▼ Actions ▼ Settings ▼				View: Maps	-	
Documents	Туре	Name			Modified	Modified By		
 Sales Orders 	0	Generic_Generic_Inbound_812_4010			6/17/2008 4:32 PM	Todd Steele		
Business Rule Set	0	Generic_Generic_Inbound_816_4010			6/30/2008 12:01 PM	Todd Steele		
Email Shipping Orders	0	Generic_Generic_Inbound_850_4010VICS			6/17/2008 4:33 PM	Todd Steele		
Adjustments	0	Generic_Generic_Inbound_850_5010			6/17/2008 4:33 PM	Todd Steele		
Archive	0	Generic_Generic_Inbound_852_4010			6/30/2008 10:21 AM	Todd Steele		
 Invoices 	0	Generic_Generic_Outbound_997_4010			6/30/2008 10:23 AM	Todd Steele		
 Relationships 	0	Generic_Generic_Outbound_997_4010VICS			8/21/2008 10:03 AM	Phillip R. Kennedy		
Lists	0	Generic_Generic_Outbound_997_5010			6/17/2008 4:34 PM	Todd Steele		
 Ship To Cross 	0	Generic_Generic_PurchaseOrderToShippingOrder			6/17/2008 4:55 PM	Todd Steele		
Reference	0	Generic_KMART_CreditDebitAdjustmentCodeLookup			6/17/2008 4:53 PM	Todd Steele		
 Customer Cross Reference 	0	Lansinoh_BBBY_Outbound_810_4010VICS			8/13/2008 4:57 AM	Phillip R. Kennedy		
Item Cross Reference	0	Lansinoh_Generic_MacolaInvoiceToInvoice		View Properties	7/2/2008 3:39 PM	Phillip R. Kennedy		
Item UOM Conversion	0	Lansinoh_UPS_Inbound_945_4010		Edit Properties	6/19/2008 12:45 PM	Todd Steele		
Terms	0	Lansinoh_UPS_Inbound_997_4010	43	Manage Permissions	7/11/2008 10:19 AM	Todd Steele		
Sales Order Tasks	0	Lansinoh_UPS_Outbound_940_4010	0	Edit in Altova Mapforce	6/19/2008 10:08 AM	Todd Steele		
Discussions	0	Lansinoh_WalMart_Outbound_810_5010	×	Delete	6/17/2008 4:34 PM	Todd Steele		
Sites				Send To				
People and Groups			La	Check Out				
Recycle Bin				Alert Me				



MapForce generates program code in Java, C++, and C#. HubKey opted to have code generated in C# to make it easily consumable by the Sharepoint platform.

🛷 ILXA_Maps_Clients_Lansinoh_BBBY_Outbound_810_4010VICSMapToX12_810.cs - Microsoft Visual Studio	×
<u>File Edit View Project Debug Tools Window Community H</u> elp	
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1XA_Maps_ClientSMapToX12_810.cs AssemblyInfo.cs	×
😤 ILXA_Maps_Clients_Lansinoh_BBBY_Outbound_810_4010VICS.ILXA_Maps_Clien 👻 📌 m_Invoice2Instance	•
<pre>using System; using System.Collections; using System.Data; using System.Xml; using Altova.Types; using Altova.Ymntions; using Altova.Functions; using Altova.TextParser; using Invoice; // application.libraries using X12_810; // application.libraries</pre>	
□ namespace ILXA_Maps_Clients_Lansinoh_BBBY_Outbound_810_4010VICS	
<pre>{ public class ILXA_Maps_Clients_Lansinoh_BBBY_Outbound_810_4010VICSMapToX12_810 : Altova.TraceProvider (</pre>	
public void Run(string Invoice2SourceFilename, string X12_810TargetFilename) //throws Exce	
mAutoNumberStates = new AutoNumberStateMap();	-
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Once the data has been translated, users can even launch XMLSpy to view and make changes directly in the XML. The generated XML displays the original EDI format in the file for an easy comparison.



Using MapForce, ILXA can also be easily configured to convert data into other EDI specifications, databases, flat files, Microsoft Excel 2007, and Web services.

Tasks Engine

The ILXA Tasks Engine enables users to manage advanced workflows, as well as track and resolve processing and validation errors that occur during the translation process. Users can view all of the documents in their workflow and take actions based on their status. Once an issue has been resolved, the document translation automatically resumes.

LXA Sales (order	Managem	ent				This Li	ist: Sales Orders	•	٩
Home Partners Sale	s Order	Management	Point of Sale							Site Actions •
	HubKe		inoh > Sales Order Manag	ement > Sales	s Orders					
View All Site Content	Use th	iis form library to	o manage sales orders.							
Documents	New	 Upload 	Actions Settings						View:	All Documents •
Sales Orders	Туре	Name	Purchase Order Number	Partner ID	Modified↓	Modified By	Ochecked Out To	Validation	Create Shipping Order	Customer ID
Business Rule Set	1	SR76673	SR76673	BBBY	12/17/2008 5:21 AM	System Account		Completed	Completed	BUY001
Email	1	SR67537	SR67537	BBBY	12/15/2008 5:59 AM	System Account		Completed	Completed	BUY001
Shipping Orders	4	SQ13775	SQ13775	BBBY	12/11/2008 4:38 AM	System Account		Completed	Completed	BUY001
Adjustments Archive	-	SP71894	SP71894	BBBY	12/9/2008 9:47 AM	System Account		Completed	Completed	BUY001
Invoices	-	SN75134	SN75134	BBBY	12/5/2008 5:50 AM	System Account	System Account	In Progress		
Relationships		SN22564	SN22564	BBBY	12/1/2008 4:44 AM	System Account		Completed	Completed	BUY001
ists	-	SM99167	SM99167	BBBY	11/28/2008 7:40 AM	System Account	System Account	In Progress		
Ship To Cross		SM41497	SM41497	BBBY	11/24/2008 5:30 AM	System Account		Completed	Completed	BUY001
Reference	-	SM30452	SM30452	BBBY	11/24/2008 5:30 AM	System Account	System Account	In Progress		
Customer Cross	4	SL01390	SL01390	BBBY	11/17/2008 6:07 AM	System Account		Completed	Completed	BUY001
Reference Item Cross Reference	-	SL03931	SL03931	BBBY	11/17/2008 6:07 AM	System Account		Completed	Completed	BUY001
Item UOM Conversion	-	SK52748	SK52748	BBBY	11/17/2008 6:07 AM	System Account		Completed	Completed	BUY001
Terms	4	SK52762	SK52762	BBBY	11/17/2008 6:07 AM	System Account		Completed	Completed	BUY001
Sales Order Tasks	-	SK52742	SK52742	BBBY	11/17/2008 6:07 AM	System Account		Completed	Completed	BUY001
iscussions	1	SK46908	SK46908	BBBY	11/17/2008 6:06 AM	System Account		Completed	Completed	BUY001
ites	•	SJ31634	SJ31634	BBBY	11/10/2008 7:54 AM	System Account		Completed	Completed	BBB081
People and Groups		SG09865	SG09865	BBBY	11/7/2008 2:37 PM	System Account		Completed	Completed	BBB081
Recycle Bin	•	SB63052	SB63052	BBBY	11/7/2008 2:36 PM	System Account		Completed	Completed	BBB081
g Recycle bill	12 (13)	SF49681	SF49681	BBBY	11/7/2008 2:33 PM	System Account		Completed	Completed	BUY001
	12 (13)	SI25148	SI 15001 SI25148	BBBY	11/7/2008 2:33 PM	System Account		Completed	Completed	BUY001
	1 1 1 1 1 1	RU51224	RU51224	BBBY	11/7/2008 2:30 PM	System Account		Completed	Completed	BUY001
	國	SA14004	SA14004	BBBY	11/7/2008 2:30 PM	System Account		Completed	Completed	BUY001
		SA14004 SA17098	SA14004 SA17098	BBBY	10/24/2008 12:23 PM	System Account		Completed	Completed	BUY001
	1			BBBY				Completed	Completed	
	1	SG03438	SG03438		10/19/2008 7:10 PM	System Account				BUY001
	1	SF37250	SF37250	BBBY	10/17/2008 6:35 AM	System Account				BUY001
	1	SF58729	SF58729	BBBY	10/17/2008 6:34 AM	System Account				BUY001
	1	SF41576	SF41576	BBBY	10/17/2008 6:34 AM	System Account				BUY001
	1	SF58255	SF58255	BBBY	10/17/2008 6:34 AM	System Account				BUY001
	1	SE75595	SE75595	BBBY	10/14/2008 7:39 AM	System Account				BUY001
		SD21087	SD21087	BBBY	10/10/2008 7:44 AM	System Account				BUY001
	1	SA03039	SA03039	BBBY	9/25/2008 5:12 AM	System Account				BUY001
	•	SA02381	SA02381	BBBY	9/25/2008 5:12 AM	System Account				BUY001
	•	SA02561	SA02561	BBBY	9/25/2008 5:12 AM	System Account				BUY001
	()	RY32582	RY32582	BBBY	9/22/2008 7:29 AM	System Account				BUY001

The ILXA Tasks Engine builds upon the advanced capabilities of Sharepoint to make a document management and publishing system that is ideal as an EDI/e-commerce solution. Users can easily assign, resolve, and review tasks in a secure setting based on assigned permissions and

defined roles. The ability to streamline these vital business processes in one central application helps increase the quality and consistency of error-prone large-scale message translation and transmission.

Business Rules Engine

HubKey's patent-pending Business Rules Engine provides customers with a powerful tool for implementing specific rules based on documents, trading partners, and/or date/time parameters. This gives organizations the ability to apply filters to transactions based on customized definitions and constraints that apply to a particular situation.

Sales	Order Management			This List: Bu	isiness Rule Set 🔹		
	es Order Management Point of Sale HubKey ILXA - Lansinoh > Sales Order Management >	Business Rule Set				S	iite Action
	Business Rule Set						
view All Site Content	Use this list to manage sets of business rules.						
ocuments	New • Upload • Actions • Settings •					View: All Docu	ments
Sales Orders Business Rule Set	Type Name	Modified	Modified By	Version	Partner ID	Priority	Enabled
Email	Gontent Type : Adjustment Business Rule Set (1)						
Shipping Orders	generic generic	12/18/2008 5:14 AM	Phillip R. Kenned	1.0	KMART; KROGER		Yes
Adjustments							
Archive	Gontent Type : Invoice Business Rule Set (1)						
Invoices	(B) generic	 6/18/2008 11:33 AM 	Todd Steele	1.0	BBBY		Yes
Relationships	G Content Type : Sales Order Bi						
ists	Generic header	5/18/2008 2:59 PM	Todd Steele	1.0	WAL500	300	Yes
Ship To Cross	bbby header	5/21/2008 10:05 AM	Todd Steele	1.0	BBBY	300	Yes
Reference Customer Cross	generic header level hea	Editor 5/18/2008 2:50 PM	Todd Steele	1.0	WAL500; BBBY	200	Yes
Reference	generic header level deta X Delete	Rule Set Editor				-	? ×
Item Cross Reference	bbby header level detail Send To	Configure the rule set A	dd and Remove rules from t	he list Foreach rule s	et condition and actions		
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Terms	Content Type : Shipping Orde Alert Me	Rule Set					
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		End adjustment Io 10	Always True		AdjustmentLine == this.Cur		-
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			Priority: 0	Reevaluation: Always	▼ ✓ Active		
	y team offers its customers o have their business rules	Name:	0		▼ ✓ Active		
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The Results

ILXA breaks down the barriers to costly EDI implementation, giving organizations an affordable, flexible, and reliable alternative to fully outsourced solutions through a modern, Web-enabled, component-based application. By combining content management functionality with age-old e-commerce business process requirements, HubKey is able to offer its customers a centralized EDI management application with resources and personalized services customized to meet any level of e-commerce data expertise. Altova MapForce and XMLSpy provide the translation and XML structure behind-thescenes, but are also available to more technical users to make adjustments and confirmations at the source. This gives HubKey the ability to offer a flexible and changeable solution to their end users, giving them the power to decide upon hands-on EDI management, or an assisted solution that still falls within their budget.

OK Cancel