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SCHEMANTIX PROVIDING BUSINESS PROCESSES TO E-MARKETPLACES

Briefing Date: February 25, 2002

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Abstract

What has hampered explosive growth in marketplaces is that a number of value-added services beyond simple cataloging and order presentment are needed. In effect, the e-marketplace needs to offer the same features as a real-world marketplace, including complete sourcing to payment. The Schemantix Business Service Suite provides a set of interoperable turnkey applications for Billing, Payment, Logistics, Reporting, Factoring, and Request for Quotes (RFQ). These solutions are based on the Schemantix Business Service Platform that provides a customizable and localized solution for e-Marketplace participants and is tightly integrated with Commerce One and SAP marketplace systems.

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Enabling the e-Marketplace

The e-Marketplace as a business concept emerged with the evolution of the Internet and connected supply chains. The marketplace provides a common area where buyers and sellers can develop relationships to sell and procure a wide variety of materials, ranging from paperclips to rolls of steel and finished goods. The benefits of an e-marketplace are clear: the economies of scale and the presence of multiple buyers and sellers in a marketplace work to make the process of procuring products more efficient, thus lowering the cost, complexity, and difficulty of purchasing goods and services.

However, the adoption of marketplaces by the wide community of buyers and sellers has been slower than many would have hoped. The recent sluggish economic conditions combined with the network-effects of marketplaces result in a variety of industry-specific marketplaces creeping along until they reach a certain amount of critical mass. What has hampered explosive growth in marketplaces is that a number of value-added services beyond simple cataloging and order presentation are needed. In effect, the e-marketplace needs to offer the same features as a real-world marketplace, including complete sourcing to payment. While these features are slowly being added, it still is between 12-24 months before e-marketplaces will really take off in Europe and the Americas.

The operators of e-Marketplaces also need to find better ways to generate revenues other than through simple per-transaction and subscription methods. Value-added services such as billing, payment, shipping and credit offer a means to not only add value to the network itself but presents additional revenue-generating opportunity. However, adding these value-added services are far from a simple endeavor. For example, many packages for billing have been created, but they haven't been designed to take advantage of the strengths of marketplace applications, such as Commerce One's MarketSite / MarketSet platform. These packages, while feature rich, merely add value that is not of immediate use in a market where customers demand instant ROI. These solutions have added complexity, training, and operation requirements that serve to increase TCO and dissuade users from using the e-Marketplace rather than on having the exact opposite effect.

The optimal solution is to deploy applications or "business services" that are directly integrated with and value-add e-Marketplaces. The functionality provided by these business services should entice organizations to become trading partners in an e-marketplace community. In this vein, Schemantix has provided an XML-based solution that extends the capabilities of e-Marketplaces providers, with a specific initial focus on the Commerce One and SAP marketplace systems.

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Schemantix Business Service Suite

The Schemantix Business Service Suite fills this gap by providing operators of Commerce One and SAP marketplaces with specific value-added business applications and solutions. The company offers their solutions via customizable, hosted business services that extend an e-marketplace's functionality in a seamless manner. Schemantix achieves this through tight integration with Commerce One's MarketSite and MarketSet platforms.

The Schemantix Business Service Suite provides a set of interoperable turnkey applications for Billing, Payment, Logistics, Reporting, Factoring, and Request for Quotes (RFQ). These solutions are based on the Schemantix Business Service Platform that provides a customizable and localized solution for marketplace participants. The Business Services are constructed as Web Services that use XML Schema to model business processes. These business services are hosted by the operators of e-marketplaces and private exchanges to extend the range of services they offer to participants.

The core of technology is based around the XServer that takes XML Schemas and turn into web-based forms. This allows them to accept invoice schema from xCBL and kick out a form that contains many user settable options. In addition, they use the Schema-adjunct Framework that allows them to attach arbitrary metadata to schema nodes for presentational schema. In this manner, they can use one stylesheet to encapsulate look and feel and don't need to write stylesheets for different forms.

Schemantix's underlying business documents are modeled using standard Commerce One xCBL document formats, resulting in components that are tightly integrated with Commerce One and SAPMarkets applications, including SupplyOrder, BuySite, Enterprise Buyer Desktop, and Enterprise Buyer Professional. Documents are communicated and processed using eXtensible Portal Connector (XPC) and the SAP Business Connector transaction-processing layer. Specific features of the billing, payment, logistics, reporting, factoring, and RFQ application modules include a unified mailbox interface for sorting, querying and viewing xCBL documents, dynamic web forms for creating and editing response documents, mappings between received documents and response documents, and document workflows. The system provides support for xCBL 2.0 and 3.0, and incorporates "single sign-on" using XPC as the secure transport mechanism.

In a typical flow for a Business Service application, an incoming document, such as a purchase order is received from a standard Commerce One SupplyOrder (version 2.2 or higher) or Enterprise Buyer Professional application. This document appears in the supplier's inbox. The Business Service then takes over by enabling the user to click on a button to perform an activity, such as a partially filled out invoice that is displayed in a web form, where the supplier can modify the data and enter additional information such as billing details. Data then is automatically mapped into the response document, transformed into an xCBL document, sent back to the marketplace, and routed to the buying organization for further processing.

Billing, Payment, and other Business Services

Current Business Service applications include Schemantix Billing and Payment, the Bank Payment Gateway, Schemantix Logistics, Schemantix Reporting, and Schemantix Factoring and RFQ. As can be guessed from the application names, each service is aimed at providing a complete solution for some aspect of the e-Marketplace. The Billing and Payment module provides functionality for suppliers to view purchase orders and automatically create the corresponding invoices. The system enables the buying organization to generate a Payment Request document from one or more received Invoices, providing workflow for internal approval process before the Payment Request is created and sent through the marketplace to the Bank Payment Gateway. In the Payment module, the bank clearinghouse subsequently

sends both the buyer and supplier a Payment Response document. The system interacts with a generic payment gateway, running separately on the Marketplace or as an independent trading engine outside the marketplace architecture.

The Schemantix Bank Payment Gateway provides a means to transfer completed Payment requests and responses between marketplaces and bank systems. The framework hosts numerous bank-specific interface modules, while routing and managing the transformation of business documents. The Logistics system allows suppliers to send Advance Shipping Notices (ASNs) to the buyer via marketplace interfaces. These ASNs appear in the buyer's inbox as a received message. Users can select multiple ASNs and reply with partially filled out Goods Receipt Notes (GRNs) specifying quantity of products to be ordered.

Schemantix's Reporting module is a hosted solution that enables marketplace operators to keep track of document flows and interaction between trading partners across multiple product lines. Reporting is managed through events and xCBL documents that flow through the MarketSite application and are captured and stored in a central database. Reports hit against this database and can produce business-level analysis on an on-demand or scheduled basis, with results transmitted and stored in XML format.

Request for Quotes (RFQ) are created in a web form-based system that transforms results into valid XML documents to be transmitted through the marketplace to potential suppliers identified in the Trading Partner Directory. Quotes can then be automatically created in response to the RFQ by responding parties. Once a customer accepts an invoice for services rendered, Schemantix Factoring provides a solution to generate factoring request documents based on one or more invoices and send them to marketplace-approved factoring parties listed in the trading partner directory. The parties can respond in full or in part, allowing partial fulfillment of the factoring request by multiple factoring parties.

The Business Service Platform

The heart of the Business Service Platform is the XServer, a Schemantix patent-pending technology that manages and maintains Business Services that are created within the development environment known as XStudio. The Schemantix Business Service Platform provides a framework for deploying business services through a mailbox interface. This system can be customized for mass-personalization. The interface looks like a "Web mail" that allows users to receive documents in their inbox and uses XServer to provide intelligent document submission to the marketplace.

The system allows users to create new business service documents by feeding in the Commerce One xCBL document and applying business service workflow in a visual environment. XView takes care of display input forms and reports for these documents. XStore deals with storing, retrieving and managing the documents in a database, and XFlow handles the modeling of document flows between participants, including real-time updates of document statuses. Communication with e-Marketplaces is handled by XTalk, which uses XPC and other connection mechanisms, and documents are transformed by XMap. The XStudio product consists of XMapper, XDesigner, and XPlanner, for mapping documents, visually designing forms and reports, and creating and modifying document workflows. The system uses Java components and pre-assembled modules to further allow customization and rapid application assembly.

Partnerships & Customers

Schemantix has two major partnerships that aim to provide product completion and marketing leverage within the marketplace community. The company signed an agreement with Commerce One in April 2001 that provided an 18-month period during which Schemantix provided software development and XML expertise to Commerce One's core engineering

teams. The result is that Schemantix consultants have an intimate knowledge of Commerce One's Market Site software.

The company is also working intensively with CenTrade, a Commerce-One based telecommunications marketplace. Schemantix ventured into a strategic relationship with CenTrade to working on product definition, extension of their billing and payment solutions, and provide joint development and sales efforts to different European marketplaces. CenTrade, a subsidiary of Czech Telecom and operator of a B2B electronic marketplace in the Czech Republic, is using the Billing and Payment features (resold as iBill and iPay) developed jointly by CenTrade, Schemantix and Commerce One.

The company aims mainly to pursue e-Marketplaces as its primary customer market. As a result, Commerce One makes a good first partner. In Europe there are many successful Commerce One and SAP-based marketplaces. Therefore, there is a corresponding need for Schemantix products in these markets since each the product presents a good follow-on for direct B2B interaction.

Schemantix also provides consulting and development services that assist in designing, developing and deploying Schemantix business services tailored for specific e-Marketplaces.

Competition & Alternatives

Schemantix faces little competition due to its tight focus on Commerce One and SAP marketplaces. However, its approach in using XML Schema for modeling business processes and documents is similar to the approaches of Infravio and Avinon. If anything, this just validates the concept from a business perspective.

It also sees competition from a variety of "RAD" developers including AltoWeb and WebPutty as well as Integration vendors such as webMethods, SeeBeyond, and Vitria. It's partner connectivity features compete in some regards with capabilities provided by Grand Central, Juice, and RedKnife, but by and large all of these vendors are competing in the general Web Services space rather than focused on marketplace solutions.

Key Conclusions & Recommendations

- E-Marketplace vendors looking to augment their product line and e-Marketplace participants looking for value-added services should consider Schemantix solutions that provide business-specific, flexible, and robust applications for marketplace scenarios.
- Schemantix' close ties to e-Marketplace technology offered by Commerce One and SAPMarkets is a competitive differentiator, but can also be a potential danger if the e-Marketplace industry does not take off as quickly as anticipated.
- It is not clear how Schemantix will play with general Web Services and ebXML specifications as they develop, but it is expected the company will support these protocols as they become part of e-Marketplace solutions.

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Profile: Schemantix	(February 2002)
Date Founded: 1998	
Funding: Privately-held, Venture-backed: GIMV Czech, Slovak SME Fund, angel investors	
CEO / President: Matthew Gertner	
Employees: N/A	
Products:	
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Related Research

- *Service-Oriented Integration* Report (ZTR-WS103)
- *Web Services Technologies and Trends* Report (ZT-WEBSERV)
- *IONA* ZapNote (ZTZN-0140)
- *Actional* ZapNote (ZTZN-0280)
- *Grand Central Communications* ZapNote (ZTZN-0623)

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About ZapThink, LLC

ZapThink is an IT market intelligence firm that provides trusted advice and critical insight into XML, Web Services, and Service Orientation. We provide our target audience of IT vendors, service providers and end-users a clear roadmap for standards-based, loosely coupled distributed computing – a vision of IT meeting the needs of the agile business.

ZapThink's role is to help companies understand these IT products and services in the context of SOAs and the vision of Service Orientation. ZapThink provides market intelligence to IT vendors who offer XML and Web Services-based products to help them understand their competitive landscape and how to communicate their value proposition to their customers within the context of Service Orientation, and lay out their product roadmaps for the coming wave of Service Orientation. ZapThink also provides implementation intelligence to IT users who are seeking guidance and clarity into how to assemble the available products and services into a coherent roadmap to Service Orientation. Finally, ZapThink provides demand intelligence to IT vendors and service providers who must understand the needs of IT users as they follow the roadmap to Service Orientation.

ZapThink's senior analysts are widely regarded as the "go to analysts" for XML, Web Services, and SOAs by vendors, end-users, and the press. They are in great demand as speakers, and have presented at conferences and industry events around the world. They are among the most quoted industry analysts in the IT industry.

ZapThink was founded in October 2000 and is headquartered in Waltham, Massachusetts. Its customers include Global 1000 firms, public sector organizations around the world, and many emerging businesses. ZapThink Analysts have years of experience in IT as well as research and analysis. Its analysts have previously been with such firms as IDC and ChannelWave, and have sat on the working group committees for standards bodies such as RosettaNet, UDDI, CPExchange, ebXML, EIDX, and CompTIA.

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