WORKING GROUP
DYNAMIC INFORMATION INTEGRATION

ARE CUSTOMERS MAKING SENSE OF INFORMATION INTEGRATION?
A Reality Check with UPS

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SUMMARY

Since February, 2002, the ongoing Working Group on Dynamic Information Integration has been discussing the challenges and possible solutions to the elusive issues around how diverse electronic business systems might communicate with one another seamlessly. Are standards the answer? Well, not completely. Will middleware solve the problem? Only partially. Does mapping help? It depends. At the September 27, 2002, Session, Jeff Enyart, Director of eCommerce, and Ken Frederick, Strategic Alliance Manager at United Parcel Service (UPS) presented to the group the solutions UPS, as a large, horizontally integrated customer, has developed to help the company communicate with customers and solve their particular piece of the dynamic information puzzle. Participants discussed with Enyart and Frederick how UPS has addressed the customer-facing information issues, including options for Web Services, aggregation models, UPS tool kits, middleware, standards, and barriers to integration with customers' systems.

Participants in the session included representatives from Attensity; Customer Intelligence Agency, Inc.; Dejima, Inc.; IBM Corporation; Karna Global Technologies; Knowmadic; Lake Forest Venture Management; Magma Design Automation; Rod Heisterberg Associates; SAP Labs, Inc.; Strategies, Concepts & Solutions Lab; and Consultant Robert Noakes.

UPS

As a transportation and logistics company, UPS maintains the world's largest business to business DB2 database and manages as many as 17 million signatures a day. The company enjoys a AAA bond rating and uses its strong cash position to invest in physical infrastructure to support customers long term. UPS's business is split approximately 80/20 between B2B and business to consumer (B2C), with B2B driving their volume. UPS also manages the world's largest truck fleet. As members of the Supply-Chain Services Division of UPS, Frederick and

Enyart's discussions revolved around customer-facing eCommerce, only. They noted that some of their largest customers, those that drive technology adoption, are currently leveraging as part of their solutions, fax and EDI (electronic data interchange) technology over technologies that require integration standards such as RosettaNet.

UPS's CHALLENGES

Fredericks opened the discussion by describing UPS's issues around information integration, which include linking the three flows of commerce – goods, information and funds; meeting customer needs as buyer, seller and provider; and UPS's need to scale from the smallest customers in the world to the largest. To solve the problems presented by these challenges, ranging from giant, entrenched legacy systems to a complete lack of systems, UPS has chosen to create its own solutions, using Windows and Java based shipping applications, Web based shipping and tracking applications, and XML based tools and technologies that connect customers to their supply chain and to their own customers. Some of these solutions help customers comply with regulatory requirements for delivery times and signatures, and others simply and elegantly connect software systems that otherwise would not be able to talk to one another.

How do common industry software standards fit into this scenario? Not easily, according to Frederick who says it is a struggle to make the concept of a standard reach across the spectrum of large and small companies. Increasingly, customers look to UPS to manage information around goods and to define the cost components of past-cancellation dates and ship windows, as retailers struggle to understand their goods flows. During the holiday season, UPS's large retail clients may increase their vendor base by 50 to 60 percent. Some of these seasonal suppliers are doing business out of their garages. Neither standards nor the retailers' proprietary systems can be enforced with these new, small players. UPS middleware acts as the intermediary between the large retailer and these small suppliers. "Even though a standard may be appropriate," said Frederick, "it is very hard to push out because of the number of people it touches. Our goal is to provide service around transportation."

UPS's SOLUTIONS, not INFORMATION

Frederick and Enyart said that their customers are not interested in technology, but, rather, in the services that can be provided to them by UPS. Customers, such as pharmaceutical companies

that are required to obtain proper signatures to ensure deliveries, are not interested in integration, but in access to information. "Customers are looking for solutions, not technology," said Enyart. "Information in and of itself is not valuable. But the complete solution really is something customers will pay for." So UPS has gotten into the business of providing solutions to customers' problems, and that does not necessarily require standards or deep integration. But, rather, it requires that UPS understand the customer's problem and provide a delivery-information-based solution. A solution may require meeting a standard and require integration, but it is based on segmentation by size, industry and/or is customer specific. UPS has created an XML toolset and several applications built from this toolset that enable shipping and tracking to name two. The company goes to great lengths to provide those solutions for its large customers, then increases revenues by offering them to other, like customers.

THE BRAND VERSUS AGGREGATION AND INTEGRTION

UPS has purchased a number of logistics companies world-wide recently including Fritz Corporation. Additional strategic acquisitions are a bank and the retail outlet, Mail Boxes, Etc., as part of a strategy to link the goods, information and funds under one UPS brand. The vision is to then integrate internally across subsidiaries providing single visibility to the customer. UPS's increasingly large scale is working to the company's advantage, as services based on information become a large part of what UPS provides, and as UPS becomes a leader in managing and funding the entire supply chain. But are standards a help or a hindrance to reaching this goal? This is where considerations of aggregation models and Web Services come into play.

As large companies search for ways to cut costs, typically they see transportation as a required component of every transaction. They often loose sight of the fact that different transportation and logistics companies deliver different levels of value to the customer. Third parties are able to pick different carriers' tools off of the Internet or off Web Services sites and integrate these tools into a third-party shipping tool. In this multi-carrier shipping model, many shipping companies can be aggregated into the model from which the company can choose, according to differing costs and services. One of the problems with these models for a company like UPS is that the logistics company looses the relationship with the customer as they are aggregated and handled by the middleman. The other is that the margins in transportation are very thin. Many carriers in the freight business operate in the area of 7 cents on the dollar. Aggregation has the potential to cut into UPS margins. "On the buy side," said Enyart, "I want to be able to find out who is the

least expensive supplier today. But on the sell side, I do not want to be in *anyone's* aggregation model."

Industry-wide standards or Web Services that provide visibility into UPS's systems promote the ability of third parties to aggregate UPS's offerings until they become simple services, not UPS-branded solutions. Understanding this, UPS is moving to provide more detailed information for the registered user, creating a richer experience. In contrast, the anonymous user will be able to view base delivery information. Details of delivery will be available to the user who registers at MYUPS, with XML tools or with a third party. "The anonymous user will only see that the package has been delivered," said Enyart. "Until you create a value for a registered experience, people will not register." And the registered customer is the more loyal customer, responding to the UPS brand.

Cautious participation with aggregation models might provide new opportunities for the UPS brand. UPS recently integrated shipping and tracking with the Pay Pal solution. Pay Pal is clearly an aggregator; it is a place where buyers and sellers complete commerce transactions by exchanging funds and now coordinating UPS shipping. PayPal customers can also view information on financial transactions, goods movement and information exchange. In the last few months, UPS has set up thousands of new customers from the relationship. "If you had asked me 6 months ago, would we participate in an aggregation model," said Enyart, "I would have said 'absolutely not.' But this one is making us take a second look at these business models because it is generating thousands of new customers and thousands of dollars a day."

THE STATE OF STANDARDS FOR THE LOGISTICS INDUSTRY

Standards that can be built into software for the transportation industry have been slow in developing. The conversation needs to be engaged around what Frederick calls "terms" and "events." And more carriers need to be involved in that conversation than UPS, which is one of the very few transportation companies on the standards committees. Just the term "delivery" can have different meanings to different customers and players in the industry. To a manufacturer an item is delivered when it is FOB off the dock. For the customer, it is delivered when they receive it at their home or place of work. Also, "address" can vary from a street address, to a suite address within that street address, to a geographic position. For now, these challenges have not

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been tackled by the industry, and most providers are content with EDI systems, which, according to Enyart, handle large amounts of data (not information) very well.

Standards and Web Services both have the potential to turn what UPS now holds as proprietary tools and services into commodities that can be aggregated and sold by third parities. Although UPS sits on several standards committees such as EDIFact and ANSI X12, they mostly observe, neither hindering nor pushing for standards which will be costly for them to implement into the world's largest DB2 database and which could tip them off their proprietary services position with customers. UPS has a low percent churn, or customer turnover, rate. Their commitment is to drive that number even lower based on service, not rates. "Delivering packages has been figured out," said Enyart. "But to capture the information, deliver it, and build a value proposition around it – that is a rarity. Differentiation is the goal. The last thing you want is to become a commodity." Enyart and Fredericks said that most UPS innovations do not evolve around standards, but around a given solution for a customer need. Most of these needs involve reliability, improvements around claims processes and event-tracking information. To standardize that service component for all players would cut UPS's competitive edge. "The more I move toward a standard," said Frederick, "the more I enable the competition to match that solution." But, in the end we must match the standards that create value for our customer's businesses.

THE INTEGRATED SOLUTION

Enyart's eCommerce goals for UPS are to build out the integrated solution, migrating from a tool kit to solutions-based business. They aim to work through integration into their alliance partners, such as SAP and Oracle, making sure they are embedded in the solutions that customers use every day. They also plan to drive profit and grow revenue around information-based channels and services. Integration of information through Web Services will have a place in the mix of UPS services and solutions, but Web Services, which could increase visibility into UPS's systems, will be deployed with caution, and they will need to work for more than one customer. The group decided that ease of integration and standards are not the same things. Although ease of integration can be achieved through a standard or through proprietary technologies, standards can make integration more difficult, unless the back-end systems already support the standards. However, they agreed, a set of well-defined standards could ease integration.

RFID

Radio Frequency Identification (RFID) was mentioned briefly in the discussion. However, though RFID may be used inside warehouses and in other divisions of UPS, for the customer-facing piece of the supply chain, it is not yet in demand. UPS is, however, working with MIT on RFID solutions for the future. But currently, says Enyart, RFID is not yet driven by customers nor supported by technology.

SUPPLY-CHAIN SECURITY

Fredericks said that supply-chain security is the next great battle field for supply-chain management. Years ago, UPS and other carriers were experiencing high rates of theft of their delivery trucks in New York City, especially in the jewelry district where the cargo could be very pricey. Trucks were almost as secure as armored cars. Yet by the time authorities were able to locate a stolen vehicle, the perpetrators had gotten into the trucks and fled with the goods. UPS's solution was to install Loran and GPS (global positioning satellite) technologies on the vehicles. "New York City has a lot of theft," said Frederick, "but they also have a lot of police. Shortly after the driver made the call that the vehicle had been stolen, GPS located the vehicle and police were able to subdue the thieves." With high rates of recovery and prosecution, those types of theft in New York City are now rare for UPS. In the area of credit-card fraud in the supply chain, Fredericks said that in the future, UPS will be able to authorize its large team of drivers to check for user photo identification and reduce fraud.

VALUE-ADDED SERVICES

UPS also provides services to customers that add value through the supply-chain process. In Europe, UPS hires musicians to tune Fender guitars before they deliver them. And they do some assembly for Gateway Computers before delivery. Locally to the San Francisco Bay Area, Enyart says the company is working on campus-based Web Services for individual companies. These solutions add value by including internal tracking and evaluation of delivery, enabling UPS to capture profits they might otherwise have to give up to a third party. UPS produces and delivers lost or stolen credit-card replacements from their many locations around the country, speeding the delivery of such replacement cards and adding value to the service they provide the credit-card company.

As one of the largest software end-users in the world, UPS has turned to internally built systems that deliver solutions, not only information, to their customers around the world. From real-time

package tracking to signature verification to tuning guitars before delivery, UPS is looking for ways to add value to the transportation and logistics services they provide in order to differentiate themselves from the competition. Although the Internet is utilized for communicating real-time tracking information to customers and to partners, ease of integration with customer systems is accomplished through these internally-built systems, not through standards or Web Services. Most of UPS's innovations do not revolve around a standard; they revolve around a customer solution. "The key," said Enyart, "is that we do not focus on standards except as a way to meet a customer need. XML is widely accepted as a way to communicate information." In the future, a shift may occur whereby industry-wide standards, Web Services or other integration tools bring increased value to UPS without diluting their branded services or endangering their position as king of the logistics and transportation hill. But for now, UPS continues to drive revenue through the creation of its own systems that provide solutions to customers' problems and help the company invest in the physical infrastructure that allows it to be a strong, proactive partner with customers.