

## ZAPTHINK ZAPNOTE™

### TRANSCENTRIC: TRANSXML *CROSS-INDUSTRY SHIPPING AND LOGISTICS FORMAT*

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#### **Abstract**

Transentric, a spin-off of transportation giant Union Pacific, has created TransXML, an XML format for the specification of shipping and logistics information in a cross-industry manner. Most manufacturing, retail, and other supply-chain affected industries have a requirement for specifying shipping information. Transentric's format is meant to simplify and standardize these requirements. Organizations seeking to specify shipping and logistics information should examine TransXML for applicability and possible usage.

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## Transportation as a Horizontal Industry

In many ways, one can look at transportation as a “horizontal industry” that is applicable to multiple vertical industries. Industries as diverse as petroleum, automotive, electronics, textiles, and agriculture all rely on transportation as the means to get their products to market. Therefore, they have usually created vocabularies that describe the various needs in describing transportation, shipping, and logistics information. Much of this information is the same, regardless of the industry being described. As such, transportation companies such as Transentric have sought to bring some order to the chaos by providing a single cross-industry definition of transportation needs. In standardizing this format, TranXML hopes to provide the benefit of cost savings and efficiency to the “small mom and pop” organizations. They also note that TranXML serves an important role in enabling internal communication, inter-application integration, and communication with the systems of other trading partners.

Originally formed as part of the transportation giant Union Pacific, **Transentric** branched off on its own in mid-2000 as an organization focused on solving the technological problems faced in the transportation, shipping, and logistics industries. Leveraging their 20 years of experience in developing semantic repositories for logistics and transportation needs, they have developed an open, cross-vertical specification called **TranXML** for standardizing the way that transportation information is sent between customers and freight carriers.

In April 2001, Transentric released eight TranXML schemas in support of their standards effort. These support applications including load tendering, delivery, freight billing, reconciliation, scheduling/forecasting and equipment ordering. Specifically, the schemas correspond to rail bill of lading, car location messaging, motor carrier bills of lading and load tender, shipment status and weight, terminal operations and intermodal ramp activity, and a dictionary for transportation terms and attributes. The next release of additional schema, slated for July 20, 2001, will include rail waybills, car handling, shipper car orders, switch lists, advance shipping notices, and warehouse stock, shipping, and inventory.

## Benefits of TranXML

Rather than creating a new semantic representation of this information, Transentric sought to leverage their years of experience in EDI and present a format that is easily exchanged with this format. EDI use is widespread in the transportation industry, and requirement for a new would uproot the existing technology and cause unnecessary difficulty in gaining acceptance and adoption. The TranXML specification therefore mirrors many of the existing X12 EDI specifications, and uses an architecture that accepts EDI messages at one end, converts to an “XEDI” specification by means of an XML Solutions XML transformation tool, and produces

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results in a native XML format well suited to EDI integration. This EDI approach uses qualifiers as attributes, thus keeping compliance checking similar to X12. However, the EDI “conversion” only gets them halfway there, since it represents a simple transformation. The real added value of the TranXML group is that they use their domain knowledge and expertise to transform these EDI-based elements into native XML code that differs based on interpretation of X12 standards. For example, equipment, name, and invoice structure are particular to individual industries and organizations.

One of the benefits of a single cross-industry transportation description such as TranXML is that it provides an easy and inexpensive way to implement new trading partner relationships, since it leveraging EDI and providing a neutral format that enables both carrier and shipper legacy systems to exchange data. Since the format requires some of the capabilities of EDI, they have taken advantage of XML Schema that provides more advanced grouping, data typing, attribute capabilities, and inheritance capabilities. Developed as an open standard, TranXML is designed to be vendor-neutral and licenses will be available free of charge.

## Work with Other Standards Bodies

Since the interest in transportation vocabularies, especially track and tracing functionality, is widespread among many different industries, Transentric sought to form a neutral, independent organization for the promotion and continued development of the TranXML format. The mission of TranXML.org is to provide a neutral, cross-industry forum for the development of collaborative logistics supply chain XML vocabularies and functions. The collaborative effort will encourage participation by carriers, shippers and third parties. TranXML.org also meets its goals by forming relationships with other standards organizations such as **the Chemical Industry Data Exchange (CIDX)**, **RosettaNet**, and the **Joint Core Components group of ASC X12 and UN/EDIFACT**. The important consideration is that a critical mass of carrier adoption (rail, ocean, motor, and air) is needed.

They are working with other industries that share synergies due to shared transportation needs. For example, ChemXML is heavily drawn from X12 and EDIFACT directories, and would also benefit from a TranXML relationship. TranXML has adopted the ebXML framework for transport, routing, packing, and security. They would like to work closely with the JCC, but have some concerns about their interest and overlap. Despite these concerns, they are working to get involved with JCC repository and insure proper expertise in this domain area. RosettaNet also provides an opportunity to gain from a TranXML relationship, as their schemas provide only the basics for transportation and logistics need.

## The Win for Transentric

Transentric gains from the development and release of TranXML by virtue of their primary business in providing software and services support to the logistics industry. Transentric’s Gateway will be able to convert messages in XML, X12, EDIFACT or custom flat files to and from the TranXML format using common domain business objects, which can then be seamlessly integrated with a trading partner’s ERP or legacy logistics applications. Transentric also currently serves carriers with mainframe products. ShipmentVision (formerly Shipment Management Solutions) provides a well-known solution for shipment and inventory visibility. All of Transentric applications leverage a sophisticated messaging infrastructure called Agilink, that aims to provide a transformation for transportation messaging.

## Key Conclusions & Recommendations

- Customers and vendors looking to create or adopt XML-based transportation, shipping, and logistics formats should investigate TransXML for match with business needs
- TransXML, by virtue of working with the major standards bodies, is sure to garner some influence on standards bodies

- The comprehensive and cross-industry nature of TransXML is worth a careful look by members of other XML standards groups and specification creating bodies.

TranXML is a focused, and detailed effort that is sure to gain adoption and attention by the industry as soon as the various vertical industry specification efforts realize that transportation, logistics, and shipping are not their core competencies. It is hoped that the TranXML.org group can promote their effort and continue development to the extent that other specification efforts leverage their work. After all, it makes no sense to reinvent the wheel in transportation – that's where it was invented in the first place.

<b>Profile: Transentric</b>	(August, 2001)
Date Founded: 1987	
Funding: Wholly owned LLC of Union Pacific Corporation	
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## Related Research

- *RosettaNet* ZapNote (ZTZN-0100)

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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.

Call, email, or visit the ZapThink Web site to learn more about how ZapThink can help you to better understand how XML and Web Services impact your business or organization.

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