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## B2B Integration Trends: Message Formats

Alternatives Grow, But EDI Standards Remain The Leading Option For B2B Messaging

This is the first document in the "B2B Trends 2007" series.

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### EXECUTIVE SUMMARY

Electronic data interchange (EDI) technology gained wide acceptance by providing basic electronic document exchange capability that was crucial to enterprises in many sectors. This technology was well suited to dealing with highly structured data that did not change frequently. However, today's B2B scenarios require more flexibility, especially when dealing with growing demands for support for process improvement efforts across the entire value chain. This is leading to increased adoption of multiple XML-based B2B options. Enterprise architects should strive to create a B2B support infrastructure that is designed to take advantage of both old and new technology, as each can provide unique value in meeting the full range of external integration needs.

### EDI CONTINUES TO DOMINATE THE B2B SPACE

The current state of affairs in the B2B integration arena remains dominated by the huge volume of EDI transactions that occur on a daily basis. Discussions with leading B2B service providers indicate that the current volume of worldwide EDI transactions is more than 20 million per day and accounts for a significant amount of worldwide commercial activity. In fact, earlier studies determined that more than one-third of the US GDP is directly supported by EDI transaction exchanges in the retail, manufacturing, financial, healthcare, logistics, food and beverage, and pharmaceutical sectors. EDI transaction volume will continue to grow, though at a slower rate than the other major alternatives.

Stateful XML, stateless XML, and even flat file exchanges are all projected to grow at a faster rate than EDI over the next several years. Forrester has estimated transaction volume and growth by type of exchange based on interviews of several of the leading B2B service providers, including GXs, Inovis, and Sterling Commerce; integration vendors like TIBCO Software, webMethods, and Vitria Technology; and platform providers like BEA Systems, IBM, Microsoft, Oracle, SAP, and Sun Microsystems (see Figure 1).

- **EDI.** This category consists primarily of X12 and EDIFACT transactions representing many types of standard business documents, including purchase orders, invoices, advanced shipping notices (ASNs), electronic payments, and healthcare payments. EDI transactions have been in use since the late 1970s and have gained critical mass in many sectors.



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**Figure 1** B2B Transaction Volume And Growth Estimates By Exchange Type

Type of exchange	Estimated % of total B2B volume	2007 growth projections
EDI	85%-90%	3%-5%
Stateful XML	3%-5%	5%-8%
Stateless XML	3%-5%	5%-8%
Other (flat files, etc.)	3%-5%	10%+

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Source: Forrester Research, Inc.

- **Stateful XML.** These are XML-based transactions that maintain the state of the transaction within the confines of a larger business process. For example, in the high-tech electronics sector, RosettaNet Partner Interface Processes (PIPs) maintain the state of transactions until they are completed using the RosettaNet Information Framework (RNIF) message format. In this environment, purchase orders executed within the RosettaNet environment are monitored until all of the individual items in the order have been received or canceled. The “state” of each item (fulfilled, backordered, etc.) is maintained over time. Stateful XML transactions will be required for a growing number of B2B process-oriented transactions, and they are projected to exceed the growth of EDI transactions over the next five years.
- **Stateless XML.** This group consists of XML-based messages that adhere to industry-defined standards or proprietary standards agreed to by two trading partners. They do not maintain any state information and are similar to EDI from the perspective that they do not support any type of persistence. ACORD, which is used in the insurance sector, CIDX, which is used in the chemicals industry, and PIDX, which is used in the petroleum industry, are all examples of stateless XML messages. Universal business language (UBL) is another stateless, XML-based dialect that is being supported by OASIS but has had little practical uptake.
- **Other.** Comma-separated flat files are the main type of transaction in this group. The formats are decided upon by the trading partners exchanging them, and they follow no specific patterns, either inside or outside of vertical sectors. This area is currently experiencing the most growth, in spite of the limited standardization that it supports. This level of growth is being driven by the need for enterprises to support B2B process improvement efforts in situations where proprietary, non-XML content formats are all that have been agreed to so far.

### But Process Interactions Will Be The Primary Growth Driver Moving Forward

EDI usage predates the other options by at least two decades, and that is the primary reason why this older technology has been so resistant to wholesale replacement by XML-based alternatives.

EDI was able to grow and flourish in an environment where there were no other viable technology options. And now that other viable options do exist, few enterprises are willing to take on the risk of making a shift to a newer alternative when the old one still works. Consequently, EDI will continue to be the primary type of B2B interaction for many years to come.

However, that does not mean that newer alternatives do not have a vital role to play. EDI transactions are very structured and difficult to change. That's fine for standard business documents, but it won't suffice for meeting the increasingly diverse needs of agile organizations of the future. This is where a wide range of XML-based transactions (both stateful and stateless) will come to bear, supporting flexible transaction exchanges that represent an enhancement to, but not replacement of, the older EDI technology.

## RECOMMENDATIONS

### USE THE B2B ALTERNATIVE THAT MAKES THE MOST SENSE FOR YOUR ENTERPRISE

One size does not fit all, and nowhere is that more true than in the current B2B world. Organizations have a wide range of B2B integration needs, and enterprise architects will find that a mix of old and new technology will represent their best alternative in most situations.

- **EDI.** Use EDI for standard business documents like purchase orders, invoices, payments, and claims, especially in those sectors where EDI has already been widely implemented. Potential trading partners will find it much easier to do business with you if you use the dominant standards.
- **XML.** Consider XML-based alternatives for other types of exchanges, particularly those that have a strong business process focus. Check with industry support groups in your sector for specific guidance. For example, the Automotive Industry Action Group (AIAG) is an excellent source for recommended B2B procedures in the automotive sector.

## WHAT IT MEANS

### A RISING TIDE IS LIFTING ALL BOATS

Growth in the number and scope of B2B interactions is leading to increased volume across all major transaction types. EDI usage has a head start and therefore a large lead, but newer XML-based solutions will provide increasing levels of support for more complex, process-improvement-related transactions. The most important point is that both the older and newer technologies will coexist in most organizations, with each doing what it does best.