

Market Overview: EDI Software and Services

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Giga Position

Electronic data interchange (EDI) has experienced a resurgence in interest during the last two years as organizations re-learned the value of this proven technology. It is real and it works. Further, it will not be replaced by the Internet, but will actually experience significant growth as systems are modified to link EDI to real-time, Internet-based communications that will provide the foundation for many new and sophisticated e-business process improvements. EDI transactions (whether clear text or encapsulated in XML) will continue to account for the majority of all computerized business-to-business (B2B) transactions for the next several years, and EDI revenues for software and services will grow from \$1.8 billion in 2001 to \$2.1 billion by 2006 [.7p].

Proof/Notes

Market Description

EDI is a form of data integration technology that has been in use in North America for more than 20 years. It has gradually changed to keep up with new advances in technology and still provides real value to organizations, especially when combined with process technology (in the form of BPI), and, in the future, services-based technology (in the form of Web Services) (see Planning Assumption, [Analyzing B2B Integration Architecture Options](#), Ken Vollmer). The degree to which it has been implemented within organizations in support of basic integration efforts with key trading partners will make it very difficult to replace anytime in the near future.

The architecture that supports EDI can be thought of as a form of loosely coupled integration that enables organizations to exchange business information with their trading partners without requiring them modify internal application processes (see IdeaByte, [Comparing 'Loose' vs. 'Tight' B2B Integration](#), Ken Vollmer). This is done through the usage of an open data standard such as X12 (used primarily North America and Australia across multiple vertical industries), EDIFACT (a United Nations sponsored format), TRADACOMS (used in the UK retail industry), ODETTE (used by the European automotive industry), HL7 (used in the health-care industry in the US and some European countries) or ACORD (used by the insurance industry in the US). Mapping internal data to an external standard enables organizations to exchange information with multiple trading partners using a single document map.

Today's EDI market is both stable and changeable at the same time. The stability comes from the constant support that this legacy technology continues to provide organizations in many sectors, with annual US-based transaction value estimated to exceed \$3.2 trillion in 2002 and predicted to reach \$3.7 trillion by 2005 (see table). The changeable face of EDI comes from two primary areas:

1. Historically restricted to the proprietary world of value-added networks (VANs), dialup or leased-line communications, EDI can now also be transported over newer forms of Internet-based communications such as electronic trading networks (ETNs), e-marketplaces or direct point-to-point communications links (see Planning Assumptions, [Market Overview: B2B E-Commerce and the Rise of Multiple E-Channels](#), Ken Vollmer and Andrew Bartels, and [B2B Integration Options: Part 1 – Evaluating E-Channel Alternatives](#), Ken Vollmer).

2. EDI can easily be encapsulated in XML, providing a widely understood data standard that can be used to support many new e-business initiatives, not the least of which is providing more cost-effective methods for enabling enterprises to communicate electronically with their small-to-midsize enterprise (SME) trading partners. Both the ebXML project sponsored by OASIS and the United Nations and **Microsoft's** BizTalk include full support for both X12 and EDIFACT EDI transactions (see [IdeaByte](#), [ebXML](#) and [BizTalk to Support EDI](#), Ken Vollmer).

The EDI market can be split into two logical units: general-purpose EDI and health-care EDI. For the most part, there is very little interplay between these two groups and their internal dynamics are quite different from one another. For example, the general-purpose EDI area is made up of participants in many different vertical sectors that purchase EDI software and services from a group of established vendors that provide basic EDI functionality. This is by far the largest segment of the EDI market.

The smaller health-care EDI area is unique in that the vendors in this space do not sell EDI software, but rather charge their customers for access to hosted translation and document exchange services that are specific to the health-care industry. This leads to differing technical requirement skills between these two groups as organizations in the general-purpose area usually have employees that understand the intricacies of the EDI software and the related data mapping processes (or hire consultants to provide this service), whereas in the health-care sector this function is provided by the EDI service provider.

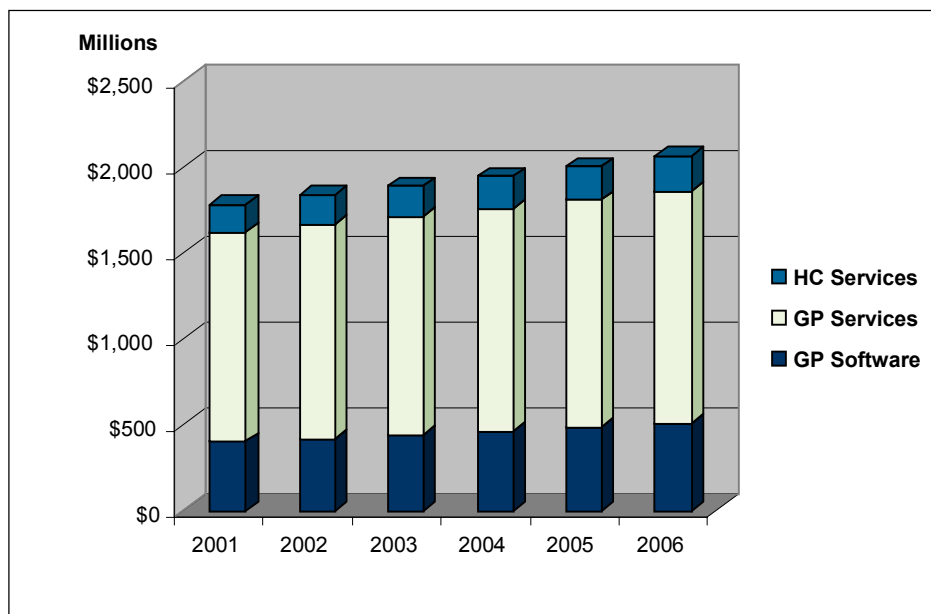
The information provided in this document pertains primarily to the North American market (except in the case of health-care EDI, where the legal requirements are particular to the United States only). While EDI is used in other parts of the world using the UN EDIFACT and other standards, its adoption is not as widespread as in North America and reliable volume statistics are not available at this time.

Market Size and Composition

EDI revenues come from two related segments — EDI software and EDI-related communication services. Figure 1 shows the vendor revenue projections for the 2001 to 2006 time frame broken into three categories: general-purpose (GP) software, GP services and health-care (HC) services. The underlying assumptions that these projections are based on are:

- EDI software revenues will grow at a 5 percent rate during the period as:
 1. Organizations accelerate deployment of SME solutions
 2. Midsize organizations implement EDI hub operations with their suppliers
 3. Health Care Insurance Portability and Accountability Act (HIPAA)-mandated EDI usage grows in the health-care sector
 4. Larger organizations maintain their investments in their EDI operations
- EDI services revenue will grow at a 2 percent rate during the period as:
 1. Overall transaction volumes increase as more SMEs and midsize hubs come online
 2. HIPAA-mandated EDI usage adds to the total transaction volume
 3. EDI outsourcing services continue to grow
 4. Reductions in VAN revenues are partially offset by increase in Internet-based communications revenues

Figure 1: EDI Market Revenue



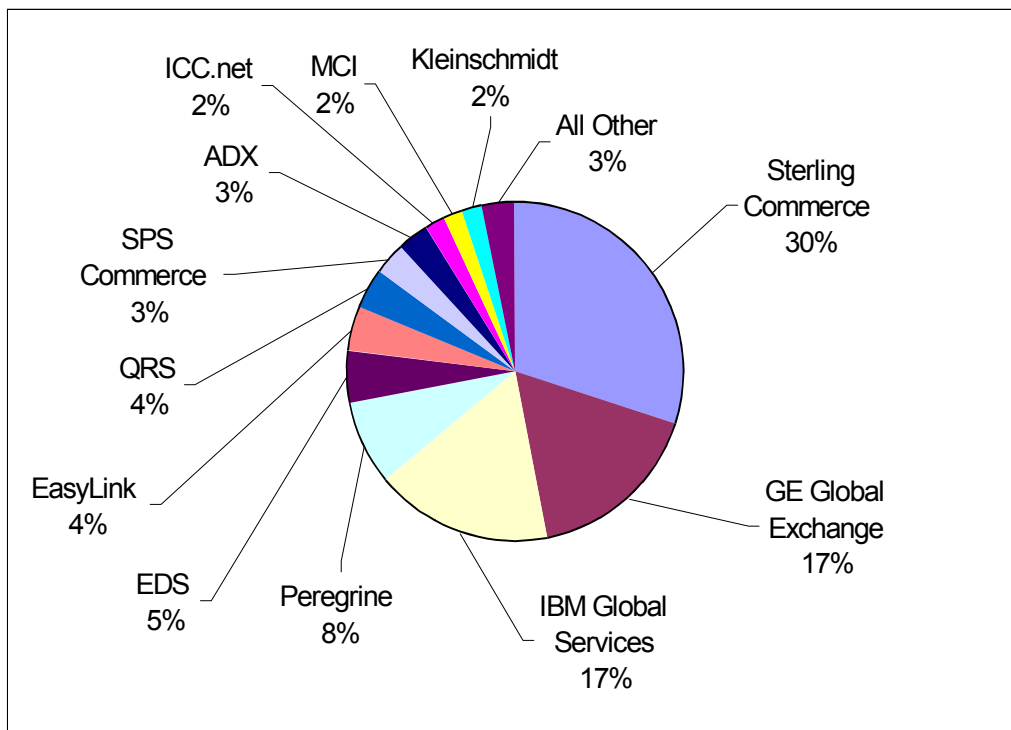
Source: Giga Information Group

Based on these assumptions and our understanding of the underlying market dynamics, we believe EDI service revenues will increase from \$1.43 billion in 2001 to \$1.52 billion in 2006, while software revenues increase from \$400 million to \$511 million during the same period. Total EDI revenue will grow from approximately \$1.8 billion in 2001 to around \$2.1 billion in 2006.

Vendor Market Share

Figure 2 shows our estimates of general-purpose EDI vendor market share based on the number of supported customers. This group can be further differentiated by the target customers of each vendor. Historically, **GE Global Exchange, Sterling Commerce, IBM Global Services, Peregrine, EDS, EasyLink** (formerly AT&T) and **QRS** focused their efforts on enabling large hub companies and their key trading partners. While this worked well for the bulk of their transactions, it left many large organizations with the situation where they were unable to exchange EDI documents on a cost-effective basis with their community of smaller trading partners. This left an opening for vendors like **SPS Commerce, ADX, Foresight** and **InfoAccess** to provide hosted EDI applications that enable smaller companies to exchange EDI documents with their larger trading partners — the only technical requirement being the availability of a Web browser. Some of the larger vendors, most notably Sterling Commerce, have also recently introduced cost-effective solutions for the SME community.

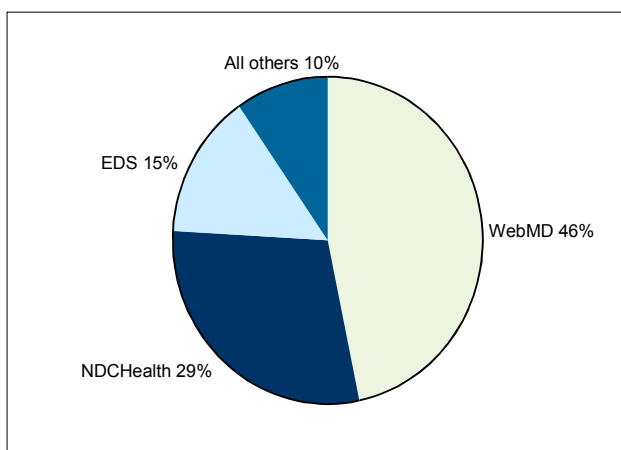
Figure 2: North American General-Purpose EDI Vendor Market Share



Source: Giga Information Group

Figure 3 shows the market share breakdown for the major vendors that provide services in the health-care EDI space. Again, this information is based on the number of supported customers for each vendor.

Figure 3: Health-Care EDI Vendor Market Share



Source: Giga Information Group

Economic Impact of EDI by Vertical Industry

The impact that EDI technology has had on US-based businesses has previously been analyzed in Giga research (see Planning Assumption, Market Overview: EDI – The Foundation of B2B E-Commerce, Ken

Vollmer), which projected the value of US-based EDI transactions through the year 2002. Our earlier predictions have been revised to factor in the impact of the current economic slump, which began in 2001. New transaction revenue figures based on updated growth projections published by the Organization for Economic Cooperation and Development (OECD) are shown in Table 1. For specific information on the logic used for calculations in each industry, see the details in the aforementioned Planning Assumption.

One other recent modification to the information in this table is the adjustments to the growth of EDI in the health-care sector that will be driven by changes mandated by the Health Insurance Portability and Accountability Act (HIPAA) of 1996. This law mandates the usage of certain EDI transactions for information transfer in this industry (see IdeaBytes, Transaction Sets Included in HIPAA, Ken Vollmer, and Don't Delay Addressing the Complexity of HIPAA Mandated Transactions, Ken Vollmer). We have factored in a 20 percent increase in EDI usage, above and beyond the normal projected growth rates, in this sector during 2003, which is the first year of mandatory EDI usage, and a 10 percent increase above the normal growth rates in years 2004 and 2005. All other industry calculations have remained the same as used in the earlier report.

Industry	\$ Value of US-Based EDI Transactions by Year				
	2001 (billions)	2002 (billions)	2003 (billions)	2004 (billions)	2005 (billions)
Chemicals	\$60	\$60	\$63	\$65	\$68
Consumer Goods	\$289	\$291	\$302	\$314	\$327
Electronics	\$86	\$87	\$90	\$94	\$98
Food and Beverage Processing	\$379	\$381	\$396	\$412	\$428
Health Care	\$347	\$349	\$432	\$477	\$527
Manufacturing	\$661	\$665	\$690	\$718	\$747
Metals and Natural Resources	\$414	\$417	\$433	\$450	\$468
Pharmaceuticals and Medical	\$171	\$172	\$179	\$186	\$194
Retail and Distribution	\$360	\$363	\$376	\$392	\$407
Transportation	\$299	\$301	\$312	\$325	\$338
Utilities	\$161	\$162	\$168	\$175	\$182
	\$3,227	\$3,250	\$3,443	\$3,608	\$3,783
Annual growth estimates*	1.10%	0.07%	3.80%	4.00%	4.00%

Source: Giga Information Group

* For 2001 – 2003, OECD updated estimates dated December 2001; Giga estimates for 2004 and 2005

The industries reflected in this table are those that have widely adopted EDI for basic message exchange with their trading partners. This technology has not had a significant impact in other industries (e.g., agriculture, forestry and fisheries).

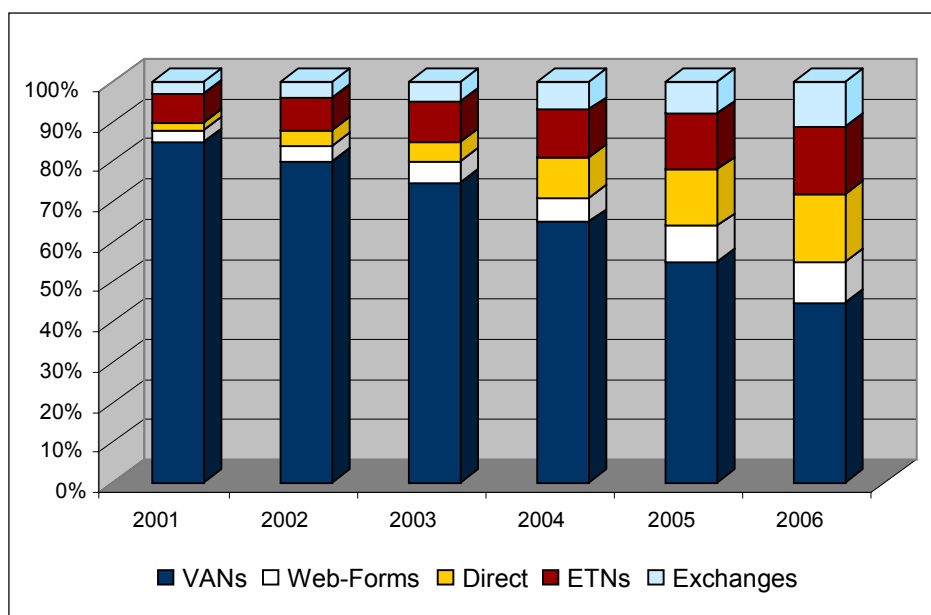
Adoption of Internet-Based Communications

Migration of EDI transactions to Internet-based communications options will be an ongoing trend, although we expect many organizations will prefer to retain their VAN relationships for some time. In the future, this issue will become increasingly muddled as VAN providers focus more on providing Internet-based options to their customers. Still, we do expect the number of transactions moving over traditional VANs to continue to shrink going forward. The primary beneficiaries of this trend will be providers of direct point-to-point

communications software such as **Cyclone Commerce** and **IPNet Solutions** as well as ETN providers like **Slam Dunk Networks**, **bTrade**, **Viquity** and others.

Also, application integration vendors like **webMethods**, **SeeBeyond**, **Vitria**, **TIBCO**, **Mercator** and others also have the capability of supporting direct point-to-point EDI transaction exchanges and many of their existing implementations are supporting this activity. There will also be increased adoption of Web forms systems provided by specialized vendors like SPS Commerce and **ADX** as well as increased usage of e-markets (private, public and industry consortium e-markets like Covisint, Exostar, E2Open and Transora) for the movement of EDI transactions. Figure 4 shows our e-channel transaction percentage projections through 2006.

Figure 4: Percent of EDI Transactions by E-Channel



Source: Giga Information Group

Alternative View

Deviations from our EDI projections in this report could come from two separate areas. First, there is a possibility that one or more non-EDI data standards like xCBL, cXML, OAG BOD's or RosettaNet PIP's would replace X12 EDI as the primary data standard used in the conduct of e-business in North America. Second, VANs could retain their dominant position in the area of EDI document transport by adding significant new functionality, reducing their prices or a combination of both.

Findings

EDI technology has the capability of being adapted to take advantage of new Internet technology, and in most cases, it will continue to provide a strong value proposition to organizations for the foreseeable future. Both the total number of transactions and the associated vendor revenues are projected to grow at least through 2006 and probably beyond. The vendor landscape will remain relatively stable as this must be looked at as a mature market after 20 years. However, new vendors will have the potential to make an impact, especially if they develop a way to use the strength of the underlying EDI technology as the foundation for more sophisticated forms of process integration. The application integration vendors would seem to be particularly suited to this challenge. Finally, EDI communications will continue its gradual migration to Internet-based e-channels.

Recommendations

Giga clients that currently have EDI systems in place should:

- Look for opportunities to enhance integration capability with other EDI-capable trading partners by implementing additional transactions sets that are applicable to the industry in which they operate.
- Implement one of the available options for connecting SME trading partners to the existing EDI system. This will enable organizations to achieve higher levels of automation than they currently have in place.
- Investigate the feasibility of Internet-based communications alternatives as a means of lowering operational EDI expenses.
- Consider the option of combining EDI and business process integration technology to achieve more sophisticated integration functionality than either technology could provide on its own.

Midsize Giga clients in particular industries (i.e., chemicals, consumer goods, electronics, food and beverage processing, health care, manufacturing, metals and natural resources, pharmaceuticals and medical, retail and distribution, transportation, utilities) that do not already have an EDI system in place should take steps to implement this proven technology with their larger upstream customers and their downstream suppliers using one of the options now available to cover the needs of the SME market

References

Related Giga Research

Planning Assumptions

[The Total Economic Impact™ of Electronic Data Interchange](#), Ken Vollmer

[Market Overview: EDI – The Foundation of B2B E-Commerce](#), Ken Vollmer

[The Future of EDI](#), Ken Vollmer

[Market Overview: B2B E-Commerce and the Rise of Multiple E-Channels](#), Ken Vollmer and Andrew Bartels

[XML's Role in the EDI World](#), Ken Vollmer

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[Analyzing B2B Integration Architecture Options](#), Ken Vollmer

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[Business Process Integration: A Key Component of B2B E-Business Strategy](#), Ken Vollmer

IdeaBytes

[Comparing 'Loose' vs. 'Tight' B2B Integration](#), Ken Vollmer

[ebXML and BizTalk to Support EDI](#), Ken Vollmer

[Intrigue in the Value-Added Network World?](#) Ken Vollmer

[Don't Delay Addressing the Complexity of HIPAA Mandated Transactions](#), Ken Vollmer

[IT Trends 2002: Electronic Data Interchange](#), Ken Vollmer

[Taking Another Look at Older Technology](#), Ken Vollmer

[We Need More EDI, Not Less](#), Ken Vollmer

[Transaction Sets Included in HIPAA](#), Ken Vollmer