Chapter VII

Enterprise Information Systems and B2B E-Commerce: Enhancing Secure Transactions Using XML

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Abstract

While the overall investment in information technology (IT) decreased somewhat during the first several years of the 21st century, B2B e-commerce technologies have expanded at an increasing rate (Lim & Wen, 2002). The expansion of B2B e-commerce has been technologically based on enterprise-wide information systems (EISs) that allow electronic data transmission and execution of transactions in a secure and efficient manner. Since B2B e-commerce is Internet-based, the EISs used to support B2B e-commerce must be Internet capable. The primary language of the Internet, Hypertext Mark-up Language (HTML), is not well-suited for transmitting data and executing transactions. Consequently, Extensible Mark-up Language (XML) was developed to facilitate electronic information exchange applications, including many applications related to B2B e-commerce. As initially conceived, XML had a number of constraints, particularly in the area of data integrity and security, however, these constraints have gradually been overcome. This chapter
reviews the objectives of using XML in B2B e-commerce, reviews the technical structure of XML, and discusses ways that security and privacy can be enhanced while engaging in B2B e-commerce.

**Introduction**

The rapid growth of B2B e-commerce has been facilitated by enterprise-wide information systems (EISs) that allow electronic data transmission and transaction execution in a secure and effective manner. Because B2B e-commerce is Internet-based, the EISs used to support B2B e-commerce must be Internet capable. Extensible Markup Language (XML) was developed in order to facilitate a variety of Internet-based data transmission applications, including various applications in B2B e-commerce. XML has some constraints, but these constraints are gradually being overcome. This chapter discusses the reasons for using XML in B2B e-commerce. It also reviews the technical structure of XML and discusses ways that data integrity can be maintained and security enhanced while engaging in B2B e-commerce.

**Overview of B2B E-Commerce**

B2B e-commerce is defined as the electronic transmission of data and the electronic execution of transactions between one or more business entities, or parts of business entities, using the Internet or privately-owned networks. B2B e-commerce requires an ability to transmit information between computer systems located in different places. Flanagan (1997) notes that B2B e-commerce includes various kinds of electronic communications between customers, suppliers, trading partners, and other parties. In many ways, B2B e-commerce is a bridge between the public Internet and privately-owned intranets. While the Internet belongs to everyone, intranets belong to specific organizations that construct secure networks using Internet protocols. The integration of private intranets within the more general Internet can be an important aspect of a business strategy, product delivery system, or customer support system. In effect, B2B e-commerce is a distributed processing environment that links various business entities. It is a virtual network within the Internet, one with security walls that prevent infiltration. The growth of B2B e-commerce has had important implications for how companies conduct their businesses, and it has dramatically reduced the cost structure in many industries (Lim & Wen, 2002).
Elements of Perception Regarding the Implementation of ERP Systems in Swiss SMEs
www.igi-global.com/article/elements-perception-regarding-implementation-erp/2142?camid=4v1a