IDEA GROUP PUBLISHING
701 E. Chocolate Avenue, Hershey PA 17033-1117, USA
Tel: 717/533-8845; Fax 717/533-8661; URL-http://www.idea-group.com
ITB7380

Chapter XI

The Role of eServices and Transactions for Integrated Value Chains

Michael P. Papazoglou and Jian Yang
INFOLAB, Tilburg University, The Netherlands

Aphrodite Tsalgatidou
University of Athens, Greece

eCommerce has been well established for several years, particularly using Electronic Data Interchange (EDI) over private or value-added networks. The advent of the Internet and the World Wide Web has given a further push to eCommerce and has been dramatically changing the way business is conducted. Enterprises, in order to be competitive, form powerful business alliances that offer services and products by utilizing the autonomous and heterogeneous infrastructure provided by the independent partners. Such extended corporations reach out not only with business relationships. They also integrate their business processes and information systems with company value chains being transformed to integrated value chains for efficiently supporting this new model of extended enterprises. This chapter gives an overview of the technological challenges for B2B eCommerce and integrated value chains. It explains how adaptive business objects and controlled interoperability on one hand, and e-services on the other, are the key enabling technologies to the challenge of integrated value chains and then discusses how business transactions can be combined with eServices to provide flexible electronic business solutions.

INTRODUCTION

eBusiness is a fast growing area in the new Internet economy. The rapid adoption of eBusiness models is shaping the future of global businesses. The enterprise is no longer limited to the internal systems of a company, but spans the entire value chain, incorporating trading and distribution partners as well as customers. As a consequence, businesses increasingly integrate their value chains by redesigning their structures to move from hierarchical-with a focus on management control-to horizontal organizations-built around business processes, teamwork and empowerment. Thus, by coordinating, collaborating and integrating with other partners, enterprises create an extended virtual enterprise. Company value chains are transformed to integrated value chains in order to support the requirements of the new extended enterprises.

Value system integration can be defined as the process by which multiple enterprises within a shared market segment collaboratively plan, implement and manage the flow of goods, services and information along the value system in a way that increases customer-perceived value and optimizes the efficiency of the chain (Dobbs, 1998). Company value chains are transformed into integrated value systems if they are designed to act as an "extended enterprise," creating and enhancing customer-perceived value by means of cross enterprise collaboration. The concept of integrated value system is expected to have major impact, allowing companies, and ultimately customers, to benefit from reduced inventories, cost savings, improved value added goods and services to customers, and tighter links with business partners. In these settings, business systems can no longer be confined to internal processes, applications and data repositories; rather they span networks of enterprises, incorporating systems of trading-and distribution-partners as well as customers.

Connectivity to the Internet, and the effective exploitation of available Internet service technologies is both the cause and the effect of new ways to conduct business electronically. A number of business and technology-driven requirements are key driving forces that enable successful development and deployment of integrated value system applications. Success in this environment requires adoption of methods and technologies that support this expanded model of the networked enterprise. These include:

1. efficient business process management technology for modeling and automation of business processes that span business entities;
2. efficient business-to-business communication for secure and reliable exchange of information and transactions with trading partners over public networks such as the Internet;