Objectives

In this chapter, you will learn about:

- Finding and evaluating Web hosting services
- Basic functions of electronic commerce software
- Advanced functions of electronic commerce software
Objectives (continued)

- Electronic commerce software for small and midsize businesses
- Electronic commerce software for midsize to large businesses
- Electronic commerce software for large businesses that have an existing information technology infrastructure
Web Hosting Alternatives

- Self-hosting
  - Running servers in-house
- Commerce service providers (CSPs)
  - Provide Internet access to companies and individuals
  - Offer Web server management and the renting of application software
Web Hosting Alternatives (continued)

- **Shared hosting**
  - Client’s Web site is on a server that hosts other Web sites simultaneously

- **Dedicated hosting**
  - Service provider makes a Web server available to a client

- **Co-location**
  - Service provider rents a physical space to the client to install its own server hardware

  - rackspace.com (premium)
  - hostnexus.com (entry level)
The List Web Host Directory

- Thelist.com
- Webhosting.info
- Shop for service rather than price
Basic Functions of Electronic Commerce Software

- All electronic commerce solutions must provide
  - A catalog display
  - Shopping cart capabilities
  - Transaction processing
Basic Functions of Electronic Commerce Software (continued)

- Additional software components
  - Middleware
  - Application integration
  - Web services (Amazon.com)
  - Integration with enterprise resource planning (ERP) software (inventory systems with site)
  - Supply chain management (SCM) software
Catalog Display

- Catalog
  - Listing of goods and services
- Static catalog
  - Simple list written in HTML that appears on a Web page
- Dynamic catalog
  - Stores information about items in a database
Problems with forms-based shopping

- Shoppers had to write down product information before going to the order form
- Customers sometimes forgot whether they had clicked the submit button
- Confusing and error prone
Using a Form to Enter an Order

![Form for entering an order](image)

**FIGURE 9-3** Using a form to enter an order
Shopping Cart (continued)

- Forms-based method of ordering has given way to electronic shopping carts

- Shopping cart
  - Keeps track of items a customer has selected
  - Allows customers to view contents of their carts, add new items, or remove items
Typical Shopping Basket Page

**FIGURE 9-4** Typical shopping basket page
Transaction Processing

- Occurs when a shopper proceeds to the virtual checkout counter by clicking a checkout button

- Calculation complications
  - Computing taxes and shipping costs
  - Provisions for coupons, special promotions, and time-sensitive offers
Advanced Functions of Electronic Commerce Software

- Middleware
  - Establishes a connection between electronic commerce software and an accounting system

- Interoperability
  - Making a company’s information systems work together
FIGURE 9-6  BEA Technology Solutions page
Enterprise Application Integration and Databases

- Application program (catalog scripts (files.php))
  - Program that performs a specific function
- Application server (Web app engine – PHP, Java Server Pages, ASP.Net, etc)
  - Computer that takes request messages received by the Web server and runs application programs
- Business logic (starting an e-commerce site)
  - Rules used in the business
Page-based application systems (PHP, ASP.NET)
- Return HTML pages generated by scripts
- More popular!

Component-based application system (Enterprise Java Beans)
- Separates presentation logic from business logic (search, login, catalog display, etc)

Database manager
- Software that stores information in a highly structured way
Distributed information systems

Large information systems that store the same data in many different physical locations

Distributed database systems

Databases within distributed information systems
Web Services

- Combination of software tools that let application software in one organization communicate with other applications over a network

- Companies are using Web services to offer improved customer service and reduce costs
SOAP, UDDI, and WSDL

- Simple Object Access Protocol (SOAP)
  - Message-passing protocol
- Web Services Description Language (WSDL)
  - Describes characteristics of logic units that make up specific Web services
- Universal Description, Discovery, and Integration (UDDI) specification
  - Set of protocols that identify locations of Web services and their associated WSDL descriptions

NOT COVERED in the 2nd Major Exam
Integration with ERP Systems

- Enterprise resource planning (ERP) software packages
  - Business systems that integrate all facets of a business
- Major ERP vendors
  - Baan, Oracle, PeopleSoft, and SAP
- Typical installation of ERP software costs between $2 million and $25 million
ERP System Integration with EDI

**FIGURE 9-9** ERP system integration with EDI
CSPs

- Have same advantages as ISP hosting services
- Low cost is biggest single advantage
- Offer free or low-cost electronic commerce software for building electronic commerce sites
Interland Web Hosting Services Home Page

FIGURE 9-10 Interland Web hosting services home page
Mall-Style Commerce Service Providers

- Provide small businesses with
  - Internet connection
  - Web site creation tools
  - Little or no banner advertising clutter
- Provide shopping cart software
- CSPs that offer mall-style commerce services
  - eBay Stores and Yahoo! Store
Yahoo! Store

- Serves as the business Web host for
  - Kennedy Space Center Space Shop
  - The Sharper Image
  - PalmPilotGear
- Merchants can create, change, and maintain their Yahoo! storefronts through a Web browser
Bigstep

- Received many industry awards for its CSP offering
- Provides two different storefront packages
- Reports
  - Provide data-mining capabilities
- Data mining
  - Looking for hidden patterns in data
Midrange packages allow a merchant to have explicit control over

- Merchandising choices
- Site layout
- Internal architecture
- Remote and local management options
Intershop Enfinity

Intershop Enfinity MultiSite provides

- Search and catalog capabilities
- Electronic shopping carts
- Online credit card transaction processing
- The ability to connect to existing back-end business systems and databases
IBM WebSphere Commerce Professional Edition

- Set of software components that provides software suitable for midsize to large businesses

- Includes
  - Catalog templates
  - Setup wizards
  - Advanced catalog tools
Microsoft Commerce Server 2006

- Allows businesses to sell products or services on the Web using the following tools:
  - User profiling and management
  - Transaction processing
  - Product and service management
  - Target audience marketing
- Provides many predefined reports for analyzing site activities and product sales data
Electronic Commerce Software for Large Businesses

- Examples of enterprise-class products that can be used to run a large online business
  - IBM WebSphere Commerce Business Edition
  - Oracle E-Business Suite
  - Broadvision One-To-One Commerce
- Enterprise-class software
  - Typically provides good tools for linking to and supporting supply and purchasing activities
FIGURE 9-14  Typical enterprise-class electronic commerce architecture
Customer Relationship Management Software

- Must obtain data from operations software that conducts activities such as
  - Sales automation
  - Customer service center operations
  - Marketing campaigns
- Must also gather data about
  - Customer activities on the company’s Web site and any other points of contact
Supply Chain Management Software

- Helps companies to coordinate planning and operations with their partners in the industry supply chains

- Performs two general types of functions
  - Planning
  - Execution
Content Management Software

- Should be tested before making a commitment
- Employees should find a software’s procedures for performing regular maintenance to be straightforward
- Helps companies control the large amounts of text, graphics, and media files
Documentum Content Management Web Site

FIGURE 9-15  Documentum content management Web site
Knowledge Management Software

- Helps companies do four main things
  - Collect and organize information
  - Share information among users
  - Enhance ability of users to collaborate
  - Preserve knowledge gained through use of information
Summary

- Company must first choose between paying a service provider to host the site and self-hosting

- External hosting options
  - Shared hosting, dedicated hosting, and co-location

- Key elements of electronic commerce software
  - Catalogs, shopping carts, and transaction processing capabilities
Summary (continued)

- Commerce service provider (CSP)
  - Used by small enterprises just starting an electronic commerce initiative
- If a company already has computing equipment and staff in place purchasing a midrange electronic commerce software package provides more control over a site
- Large enterprises with high transaction rates need to invest in larger, more customizable systems