

2000

## E-business industry developments - 2000/01; Audit risk alerts

American Institute of Certified Public Accountants

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**E-Business  
Industry  
Developments—  
2000/01**

AMERICAN INSTITUTE OF CERTIFIED PUBLIC ACCOUNTANTS

**AICPA**

## Notice to Readers

This Audit Risk Alert is intended to provide auditors of financial statements of e-business entities with an overview of recent industry, regulatory, and professional developments that may affect the audits they perform. The AICPA staff has prepared this document. It has not been approved, disapproved, or otherwise acted on by any senior technical committee of the AICPA.

Leslye Givarz  
*Technical Manager*  
*Accounting and Auditing Publications*

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## ***E-Business Industry Developments—2000/01***

### **Industry Background**

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*What background information is relevant for you to consider in the e-business arena?*  
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A critical component for a successful e-business audit requires a comprehensive knowledge of the industry environment. In addition to addressing current auditing, accounting, and regulatory issues, this e-business Alert presents a glimpse into the background of the e-business environment to provide you with a frame of reference for this industry.

We use the term *Internet* frequently throughout this Alert, and by that we mean the matrix of networks connecting computers around the world.<sup>1</sup> A related term, the *World Wide Web* (the Web), means an information server, or service computer, on the Internet composed of interconnected sites and files, accessible with a browser, which is a program that accesses and displays files available on the Web.

E-business ties in closely to Internet evolution. The Internet brought us e-business, although that was not its original purpose. The Internet was first developed in 1969 for military research scientists at universities and defense labs as decentralized computer networks that could survive a nuclear attack. Little did the developers of the Internet then realize how huge an impact its commercial use would have on our worldwide economy.

The ease of use of the Internet came slowly. As late as 1994, businesses, including the accounting profession, still faced a key technology-related issue in using the Internet—how to move readily and easily from using mainframe and minicomputers to using

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1. *The American Heritage Dictionary of the English Language* (Boston: Houghton Mifflin Company, 3rd edition, 1996).



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client servers, local area network (LAN) technology, and easy-to-use programs with graphic user interfaces (GUIs). Graphical Internet browsers, as we know them, were not introduced until early 1994, with Mosaic. Although some businesses were actually conducting transactions over the Internet before that date, total Internet sales until then were miniscule. Internet browsers enabled easy use of the Web and allowed businesses to construct and use Web sites. Browsers with GUIs made it easy for users to navigate the Web and Web sites. Only in 1995 did businesses begin conducting business-to-consumer (B2C) e-commerce, creating the beginning of the Internet boom.

### **What Do We Mean by E-Business and E-Commerce?**

Before going further, let's describe in more detail what we actually mean when we refer to e-business and the related term, *e-commerce*.

#### **E-Business**

In general, the process of using Internet technology to leverage the Web to increase the value of businesses became known as e-business. IBM provides us with a more precise notion of the term. According to IBM, e-business means the transformation of key business processes through the use of Internet technologies.<sup>2</sup> The publication *e-Commerce Security: A Global Status Report* by Deloitte and Touche (Information Security and Control Association, May 2000, p. 10) further expands that definition to include the connectivity between the Internet using the Web and an entity's information technology and business functions.

For our purposes, this Alert accepts the wider definition of e-business that includes all business functions that use Internet technologies, as well as business-to-business (B2B) and B2C transactions.

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2. See the IBM Web site at [www.ngi.ibm/com.ngi\\_html](http://www.ngi.ibm/com.ngi_html). Follow the "ngi" link to the glossary for a complete definition.

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## E-Commerce

E-commerce is only a small subset of e-business and is defined differently by different organizations. For example, in 1997, the AICPA's Assurance Services Committee defined e-commerce broadly as individuals and organizations conducting business transactions electronically over public or private networks. That definition includes electronic data interchange (EDI) and bulletin board services (BBSs). In 2000, the Information Security and Control Association (ISACA) limited the definition of e-commerce to transactions conducted over the Internet. The general public, media, and businesspeople commonly accept an even more restrictive concept of e-commerce by limiting its definition to mean online B2C retail sales conducted over the Internet.

## Use of Internet Technologies for Business Functions

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*How do e-businesses use Internet technologies in providing services?*  
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Using the IBM definition of e-business, Internet technologies include—

- The use of GUI Web browsers as the interface by end users.
- The Internet's packet switching network as the communications medium.
- Internet routers to route information between different networks using hypertext transfer protocol (HTTP) and transfer control protocol/Internet protocol (TCP/IP).
- Web servers, hypertext mark-up language (HTML), extensible mark-up language (XML), and extensible business reporting language (XBRL) to publish information.

Many companies adopting e-business make Internet technologies the heart of their information system. The use of Internet technologies extends beyond marketing, sales, and consumer services to include other services. Let's examine a few of these functions in closer detail.

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### **Using E-Business to Increase Brand Awareness**

The brand is one of the most valuable company assets. Entities use e-business to increase brand awareness, for example, by designing a corporate Web page with their logo, mission, and other corporate information that uniquely identifies them.

### **Using E-Business to Improve Consumer Service**

With Internet technologies, companies can provide product descriptions, product features, and prices to customers; offer a means by which customers can instantly place orders, request more information, or negotiate a better price; and offer a means to track order status, invoices, billing, payments, credit limits, and account status. Companies using the Internet can slash customer service costs dramatically by providing a frequently asked questions (FAQ) page and an e-mail customer service form with automatic responses or even by having chat sessions with customer service reps, who can carry on eight to ten conversations at once via the keyboard.

### **Using E-Business to Enhance the Purchasing and Selling Functions**

When suppliers link their computers to a company's sales and inventory databases, they can automatically issue purchase orders for restocking to help eliminate out-of-stock items, decrease the amount of lost sales, and reduce inventory holding costs. An e-business may conduct the purchasing function, as well as the selling function, through a vertical B2B electronic market. Other means to conduct the purchasing function include an industry portal, an ExtraNet or a virtual private network (VPN) with suppliers, described here in more detail.

*Public vertical B2B electronic marketplaces.* A public vertical B2B electronic marketplace is a Web site run by a third party centered around a commodity or service that is open to many buyers and sellers. At a vertical B2B Web site, an e-business purchasing function may provide a link to its own purchasing Web site or post the specifications for its purchasing requirements. Not only does this provide the opportunity for great cost savings and effi-

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ciency in the electronic marketplace, but also purchasers and sellers also are likely to obtain their best price quotes in minutes instead of days.

E-businesses also may conduct marketing and sales transactions in a vertical B2B Web site by offering links to their own marketing and sales Web sites or by outsourcing the sales function to the vertical B2B. A vertical B2B also may provide an outlet for selling an e-business' excess raw materials, specialized components, and finished goods inventories by making these available to other companies within the same industry. The Gartner Group reported that, in the last year, 2,000 electronic marketplaces have opened their trading floors on the Internet for a multitude of different goods and services. With that number of electronic marketplaces operating, the chances are good that your audit clients will be conducting transactions on one or more of them.

Auditors of e-businesses that participate in a vertical B2B electronic marketplace should remember that some of the source records for purchasing transactions may exist on computer systems outside the control of the audit client.

*An industry portal.* An industry portal is very similar to a vertical B2B electronic marketplace except that a portal may include many more links common to any business. Such links might provide general news, sports, financial services, other non-industry specific services as well as discussion forums and e-mail lists. An e-business may conduct the purchasing function on an industry portal in the same manner as it does for a vertical B2B electronic marketplace.

*Extranets.* An extranet is a Web site that an e-business sets up for its prospective and current trading partners, accessible to registered users, with a user ID and password. The extranet site provides information about the type of products and services the company is interested in purchasing as well as specification requirements. Information on its current inventories linked to its internal databases may also be available to certain customers. Access to the site usually requires pre-establishing a relationship between the trading partners.

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The audit implication for a client that operates its own extranet for purchasing is that elements of the electronic purchasing function may be controlled by the supplier, and the auditor will have to gain an understanding of the internal controls over these functions at the supplier.

*Virtual private network (VPN)*. Some e-businesses may establish VPNs with trading partners. A VPN is a logical network that provides user privacy over a public network such as a frame relay or, especially, the Internet, using tools such as tunneling and encryption in various combinations. When used in the purchasing function, VPNs are a great means to ensure secure transmission of data. From an audit standpoint, VPNs offer strong controls over the purchasing function by offering logging of transactions, authentication of trading partners, as well as integrity of information, identification of suppliers, and nonrepudiation of the transaction if used with digital signatures.

### **Using E-Business for Communications With Shareholders**

E-business can provide shareholders and prospective investors with the annual report and proxy statements via e-mail or post them at the company's Web site, as well as conduct annual meetings and shareholder voting online.

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### **Executive Summary—Industry Background**

- The term *Internet* refers to the matrix of networks connecting computers around the world; the World Wide Web (the Web) is an information server, or service computer, on the Internet composed of interconnected sites and files, accessible with a browser; a browser is a program that accesses and displays files available on the Web.
- Graphical Internet browsers, as we know them, were not introduced until early 1994 and, although some businesses were actually conducting transactions over the Internet before that date, total sales until then were minuscule.
- This Alert accepts the wider definition of e-business, which includes all business functions that use Internet technologies, as well as B2B and B2C transactions.

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- Many companies adopting e-business make Internet technologies the heart of their information system, including using the Internet to increase brand awareness, to improve customer service, to enhance purchasing and selling, and to communicate with shareholders.
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## **E-Business Economic Environment**

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*What does the recent and projected economic growth look like for e-business?*  
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Numerous market research firms track and report e-business sales, but the government does not yet officially provide such information. However, the U.S. Commerce Department began tracking e-commerce sales in the fourth quarter of 1999, when it reported \$5.2 billion for that period. (Because the numbers represent fourth-quarter sales, it would not be accurate to annualize that figure because it includes holiday spending, which traditionally reflects a large percentage of retail sales for the entire year.) For the first quarter of 2000, the U.S. Commerce Department reported \$5.3 billion in e-commerce sales, implying that, especially after adjusting the 1999 totals for holiday sales, e-commerce sales continue to grow at a phenomenal rate.

Some companies were strategic enough in their thinking to realize early that there were great opportunities on the Internet for conducting transactions. For example, consider Charles Schwab, E\*Trade, and other online brokerage houses that got a head start. Before other established stock brokerage houses had realized it, these companies had taken significant market share from them by offering online stock trading. The same phenomenon occurred, for example, for airline ticket sales, as online travel Web sites made major inroads into business travel sales typically transacted by travel agencies; as online classified employment advertising stole market share from newspapers; and as industrial purchasing and sales quickly moved to e-marketplaces.

A good way to look at the actual growth history of e-business using verifiable figures is to examine the audited sales reported by

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specific companies. Take, for example, three well-known pioneers of e-commerce that commenced operations in 1995: Amazon.com, E\*Trade, and Yahoo. The Securities and Exchange Commission (SEC) filings for the three companies report that, from 1995 to 1999, Amazon.com's annual sales grew from \$511 thousand to \$1.6 billion. During the same period, E\*Trade's sales climbed from \$20.8 million to \$355 million, and Yahoo's increased from \$1.6 million to \$588 million. Also consider that Dell Computer Corporation, a company that sells primarily to businesses, reported, in February 1998, \$4 million in daily sales on the Internet. By August 2000, Dell's online sales had risen to \$40 million a day. Reflecting back on the short time span of Dell's reported online sales, we see an impressive increase of approximately ten times in sales per day within thirty months.

Consider another indicator that e-business sales growth continues unabated. The *B2Index* (published by *Business2.0 Magazine*) on August 8, 2000, presented a table of various measures on companies involved in e-business using publicly available data as of June 23, 2000. The analysis includes 82 companies in e-business services, interactive services, B2B markets, portals, and e-commerce. These companies report total (average) twelve-month sales of \$18.6 billion (\$225 million) and a combined market value of \$372.7 billion (\$4.4 billion), indicating a quarter-to-quarter sales growth rate of 48 percent.

From the very beginning, e-commerce was only a small portion of total Internet transactions, and that trend is expected to continue. Estimates of e-commerce transactions in 1999 vary between \$10 billion and \$20 billion. A *New York Times* article (September 17, 2000) projects \$144 billion in total online retail sales within three years. Now consider the projected magnitude of B2B Internet transactions. The *New York Times* of March 5, 2000, states that the Gartner Group estimated that, in 1999, B2B transactions were \$145 billion and expects these transactions to grow to \$7.3 trillion by 2004! If this seems like an outlandish estimate, consider Jupiter Communications, which reports that it

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expects B2B Internet transactions to grow to \$6 trillion during the same period.<sup>3</sup>

In spite of the upbeat market predictions regarding projected e-business sales volumes, recent market events throw cautionary warnings toward dot-com companies doing e-business—especially retailers. Companies are vulnerable to the frivolous nature of investors and consumers, and that is the bottom line. The next section of this Alert highlights recent market events in the e-world. Keep your clients in mind—their vulnerabilities to as well as their strengths for survival—in these rapidly changing times.

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### **Executive Summary—E-Business Economic Environment**

- For the first quarter of 2000, the U.S. Commerce Department reports \$5.2 billion in e-commerce sales, which is equivalent to the fourth quarter numbers reported 1999 that reflect significant holiday sales.
  - Various estimates of e-commerce transactions in 1999 range from \$10 billion to \$20 billion and are expected to grow to \$144 billion within three years. Estimates in 1999 for B2B transactions were \$145 billion and are expected to grow to \$7.3 trillion by 2004!
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### **Significant Recent Events Affecting E-Business**

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*What recent market events have occurred that affect e-business?*  
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#### **Market Downturn**

On March 10, 2000, the Nasdaq, and most e-businesses, reached their all-time high market values. Before that date, e-businesses focused on growing the number of site visitors and increasing their customer base and sales revenues, with the goal of becoming the Internet market share leader in their respective industries. Prompting such lofty goals was the idea that if an e-business could become the market share frontrunner, then it could raise as much money as it needed from “angel” investors, venture capital-

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<sup>3</sup> “Study Predicts Huge Growth in Business to Business Web Sector,” the New York Times (June 26, 2000).



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ists, and the public stock market itself. Many, indeed, did do this with record-breaking initial public offerings (IPOs).

Later in the year 2000, the market for e-business took an enormous downturn for a variety of reasons. A big chill that fell on the high-tech equity market was Judge Penfield Jackson ruling against Microsoft, declaring that the world's most valuable company had violated anti-trust laws and ordering its breakup. After Judge Jackson's decision, Microsoft's share price had fallen by almost 40 percent by September 2000, and the company shed almost \$200 billion in market value.

On April 14, 2000, the *Wall Street Journal* published an article by Burton G. Malkiel titled "Nasdaq: What Goes Up..." bringing out into the open what all professional investors learned in business school but chose to ignore for Internet stocks, that "eventually every stock can only be worth the value of the cash flow it is able to earn for the benefit of investors." At that time, many Internet sector analysts were saying that most of the dot-coms couldn't survive. Audited financial statements of e-businesses filed with the SEC indicated a history of continual increasing losses with no positive cash flow in sight.

The steep plunge in market value for Internet market leaders, and the even greater plunge for the dot-coms in the year 2000, is compelling evidence that the efficient market hypothesis is still valid in its main premises that investors are rational, markets are efficient, and price changes only reflect new information. Change occurred when the market took off its blinders and factored in the reality of going-concern issues for dot-coms, the vulnerability of high-tech companies to government intervention, and the real losses of dot-coms to share prices.

### **Focus Shifts to Accounting Fundamentals**

Even though there has been a dramatic downward shift in the market value of e-businesses during 2000, their increasing negative monthly operating cash flow, known as the burn rate, hasn't slowed. Dot-coms had expected to continue to fund operations with new equity financing, but investors are now taking a close look at return on investment (ROI) and cost savings. The de-

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mand for revenue growth and profitability is being made of every e-business, even those that have received huge investments from private and public sources.

### **Funding for Money-Losing Dot-Coms Dries Up**

By the spring of 2000, even e-businesses with initial rounds of large funding or blue chip backers could no longer count on any more funding when their cash ran out. For example, Boo.com, a high-flying apparel retailer that had received \$135 million in seed capital; Toysmart.com, an online toy retailer backed by Disney; and several other dot-coms backed by prominent venture capitalists had gone out of business after running out of operating capital. Accordingly, Silicon Valley lawyers expect many more such failures. The common denominator in these failures is a history of increasing losses and no profits in sight.

### **E-Commerce Index Down Significantly for Year**

On June 4, 2000, the *New York Times* reported in an article titled "E-Tailers Countdown to Mid year 2001" that TheStreet.com's index of twenty stocks was down 51.2 percent for 2000. The article predicts that ten of the thirty-two most prominent Internet retailers would have to increase their cash reserves by mid-2001. With e-businesses continuing to burn through cash at an increasing rate, investors closing their doors to all but profitable dot-coms, and e-business share prices at a fraction of their former highs, refunding through new equity issues is unlikely.

### **Recent Technology and Legal Developments**

The e-world marketplace is rapidly changing because of recent technological developments. During the next year, broadband, a means to deliver huge volumes of data at high speeds to Internet users, and wireless, a technology to provide Internet access any time and any place without a physical connection, are expected to follow earlier Internet technology adoption growth rates. Broadband affects audit procedures by allowing huge client financial data files to be downloaded to the auditor's office, thus reducing the time spent onsite at the client. Wireless also affects internal control and audit evidence because transactions may originate on

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handheld devices, for example, or audit engagement staff may exchange audit e-mail planning memos, with no record being retained by the system.

In addition to the impact of broadband and wireless technologies, there are important implications as a result of recent court rulings. The ruling against MP3.com and the case against Napster raise contingent liability issues for similar Web sites that distribute copyrighted material without compensation to the owners. Also important are the DOJ versus Microsoft anti-trust case and the AOL-Time Warner merger. Both of these cases deal with competition and control of access to the Internet. The outcome of the DOJ versus Microsoft case may have an effect on innovation, the future development of Internet technologies, and the reliability of the underlying servers and user interfaces. Competition, access, and innovation controlled by a few companies can threaten the business models and viability of smaller and medium-size e-business audit clients.

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### **Executive Summary—Significant Recent Events Affecting E-Business**

- Investors in dot-com companies are now taking a close look at return on investment (ROI) and cost savings as the focus returns to accounting fundamentals.
  - Funding for money-losing dot-coms dries up with the common denominator of a history of increasing losses and no profits in sight.
  - With e-businesses continuing to burn through cash at an increasing rate, investors closing their doors to all but profitable dot-coms, and e-business share prices at a fraction of their former highs, refunding through new equity issues is unlikely.
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## **Audit Issues Affecting E-Business**

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*In general, what audit issues should you be aware of that affect your e-business clients?*  
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E-business is commanding an ever-increasing presence in the lives of investors and businesses. The powerful force of e-busi-

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ness, in addition to its potential effects on the way we do business, directly affect practitioners and the avenues open to them as providers of services to the companies that engage in e-business. There is great opportunity to “audit through the computer” and, thereby, increase the value of the audit while lowering costs. But, in order to take advantage of this opportunity, many traditional audit procedures will have to change.

### **The Scope of E-Business Client Activities**

As they plan their audits, auditors must ferret out information about and consider the effects of their clients doing business on the Internet. For example, auditors might need to modify engagement acceptance procedures to include questions about the client’s e-business activity—its current and future status as well as planned scope. Auditors reviewing the minutes of board of director’s meetings will want to be on the lookout for discussions about the entity’s e-business strategy, related issues, and timing. Examination of the entity’s annual budget may indicate the client’s e-business plans and might include separate estimates of projected e-business revenue, expenses, and investments. If this is not the case, auditors might inquire about e-business matters with senior management, especially if there is evidence of e-business plans in the board’s minutes. Also, even if the minutes are silent and there are no separate budget lines for e-business, unusual increases in other budget lines—marketing and technology budgets, for example—could indicate planned e-business activity. Finally, an Internet search and a detailed review of the client’s Web site might reveal evidence of the nature, scope, and depth of the company’s e-business activity.

### **Audit Timing**

The timing of audit procedures is a critical part of auditing e-business transactions. Traditionally, auditors begin performing audit procedures after the client’s fiscal year ends. In the e-business world, however, traditional audit timing may be inadequate due to the design and implementation of new e-business software applications and because of the nature of electronic evidence. E-

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business transactions may automatically initiate, authorize, record, summarize, and settle electronically without human intervention or physical documentation. As a result, sometimes key audit evidence in electronic form may exist only for a limited amount of time. Computer programs may summarize transactions on a periodic basis and then purge, update, change, modify, or write over the original detail records of the transaction. One audit implication of sometimes “short term” electronic evidence in e-business audits is that waiting until after fiscal year end to begin auditing procedures may be too late to obtain competent sufficient evidence of controls or transactions.

Statement on Auditing Standards (SAS) No. 22, *Planning and Supervision* (AICPA, *Professional Standards*, vol. 1, AU sec. 311.09), indicates that, “The extent to which computer processing is used in significant accounting applications, as well as the complexity of that processing, may also influence the nature, timing, and extent of audit procedures.”

Many e-businesses may not have physical evidence of transactions. Sales orders, purchase orders, invoices, delivery, settlement, and authorization may be prepared and performed electronically, leaving no physical trail behind. When e-business companies do not retain the detail for transactions, this becomes especially troublesome for the auditor who is considering whether internal control is functioning as planned. According to SAS No. 31, *Evidential Matter*, as amended by SAS No. 80, *Amendment to SAS No. 31*, Evidential Matter (AICPA, *Professional Standards*, vol. 1., AU sec. 326.18):

Certain electronic evidence may exist at a certain point in time. However, such evidence may not be retrievable after a specified period of time if files are changed and if backup files do not exist. Therefore, the auditor should consider the time during which information exists or is available in determining the nature, timing, and extent of his or her substantive tests, and if applicable, tests of controls.

If retention of evidential matter is questionable, the auditor might want to begin audit procedures before year end.

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## Adequate Technical Training

Do traditional financial statement auditors have the technical skills necessary to audit e-business? Auditing through the computer and the nature of electronic evidence require that the auditor gain a more detailed understanding of controls over transactions and records than that traditionally obtained for paper-based manual audits. However, with increased understanding of underlying systems and controls, the auditor may be able to perform substantive tests of 100 percent of the records summarized in certain financial statement balances. To do this, auditors will need additional training in Internet and network technologies, computer audit software, statistical methods, and analytical procedures for their e-business engagements. One needs to look no further for emphasis on qualified personnel than to SAS No. 1, *Codification of Auditing Standards and Procedures* (AICPA, *Professional Standards*, vol. 1, AU secs. 210.01 and .04, "Training and Proficiency of the Independent Auditor"). SAS No. 1 states, "The training of a professional man includes a continual awareness of developments taking place in business and his profession." The ubiquity of e-business places even more demands on auditors than ever before.

Technology has evolved according to Moore's law for the last fifty years. In 1965, Gordon Moore, one of the founders of Intel Corporation, predicted that computer processing power would double every year. Ten years later his prediction proved true, and he predicted that processing power would double every two years for the foreseeable future. Moore's predictions have held through today, but the rate of increase has been even greater than the predictions, doubling every eighteen months. Estimates of how long Moore's law will hold vary from twenty to fifty years into the future.

This rapid technology evolution has profound implications for all those affected by computer technology, auditors included. The effect of Moore's law means that existing e-business hardware and software must be replaced every eighteen months, or sooner, to remain competitive. The good news for CPAs who are just beginning to learn e-business technology is that, in such a rapidly

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changing environment, they can look forward to the possibility of catching up with other information technology (IT) professionals in, perhaps, as little as two years. However, this rapid rate of technological change implies that, in order to remain caught up, ongoing training in the underlying Internet technologies is requisite.

Experienced auditors with traditional audit skills already have 60 percent to 80 percent of what they need to audit e-business. They can obtain the balance of the more specific technology skills required in technical training courses, in seminars, from IT reference materials, and on the Internet, among other sources.

### **Using the Work of a Specialist**

Even though auditors have most of the skills they need to audit e-business, they may not have all the skills they require on their audit staff. Until auditors and their staff have the technical skills needed to audit e-business, they may need to engage IT audit specialists to perform certain procedures. Qualified IT specialists sometimes are available from another part of the firm, such as the consulting division or the internal IT support staff. If not, the audit firm may have to go outside its own organization to obtain qualified staff.

Engaging a specialist for gaining an understanding of internal controls, tests of controls, substantive tests, and analytical procedures requires awareness of guidelines available in the authoritative literature. According to SAS No. 73, *Using the Work of a Specialist* (AICPA, *Professional Standards*, vol. 1, AU sec. 336.06), specialized assistance is advisable for auditors who:

encounter complex or subjective matters potentially material to the financial statements. Such matters may require special skills or knowledge and in the auditor's judgment require using the work of a specialist to obtain competent evidential matter.

The use of an outside specialist in an e-business context does not absolve the auditor from a certain level of understanding about computers. Audit planning comes into play because of the lead time necessary to contract for a specialist's services and the time

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required for the auditor to obtain the minimum technological knowledge necessary to supervise the specialist. According to SAS No. 22 (AU sec. 311.10):

If specialized skills are needed, the auditor should seek the assistance of a professional possessing such skills, who may be either on the auditor's staff or an outside professional. If the use of such a professional is planned, the auditor should have sufficient computer-related knowledge to communicate the objectives of the other professional's work; to evaluate whether the specified procedures will meet the auditor's objectives; and to evaluate the results of the procedures applied as they relate to the nature, timing, and extent of other planned audit procedures. The auditor's responsibilities with respect to using such a professional are equivalent to those for other assistants.

## **Independence**

No discussion of auditing e-business would be complete without inevitably discussing auditor independence, as described in SAS No. 1, *Codification of Auditing Standards and Procedures* (AICPA, *Professional Standards*, vol. 1, AU sec. 220, "Independence"). In November 2000 the SEC issued a new ruling on auditor independence. Among the topics addressed by the SEC's new rule that might be of interest to e-business auditors is "financial information systems design and implementation." Auditors of SEC registrants should familiarize themselves with the new rule to ensure that their independence is not impaired by providing nonaudit services to their clients. For a complete text of the final rule, go to the SEC Web site at: [www.sec.gov/rules/final/33-7919.htm](http://www.sec.gov/rules/final/33-7919.htm).

Current AICPA rules regarding independence allow design and installation or integration of information systems, the customization of prepackaged accounting or information system software, and initial training and instructions to client employees, provided the client makes all management decisions. Bookkeeping for non-public audit clients may also be permissible. However, according to Interpretation 101-3, "Performance of Other Services," of ET section 101, *Independence* (AICPA, *Professional*



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*Standards*, vol. 2, ET sec. 101.05), an audit firm's independence would be impaired if the firm, among other things—

- Supervised client personnel in the daily operation of a client's information system.
- Managed a client's local area network.

Independence standards do not specifically address Web hosting. However, the impairment of independence by managing a client's local area network could possibly apply to hosting a Web site that performs the functions enumerated in ET section 101.05 electronically under control of the webmaster and network administrator.

### **Internal Control as It Affects Audit Evidential Matter**

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*How does the auditor's consideration of internal control for an e-business differ from that of a traditional business? How does e-business change the nature of evidential matter?*  
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SAS No. 55, *Consideration of Internal Control in a Financial Statement Audit* (AICPA, *Professional Standards*, vol. 1, AU sec. 319), as amended by SAS No. 78, *Consideration of Internal Control in a Financial Statement Audit: An Amendment to SAS No. 55* (AICPA, *Professional Standards*, vol. 1, AU sec. 319),<sup>4</sup> provides guidance on the independent auditor's consideration of an entity's internal control in an audit of financial statements in accordance with generally accepted accounting principles (GAAP). For traditional businesses, the auditor's consideration of internal control typically involves updating prior-year checklists, questionnaires, and procedural narratives. Using a traditional audit approach for e-business would be insufficient because, in the e-business environment, almost all evidence of transactions is digital. Critical records may consist of e-mail, database records, electronic docu-

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4. The ASB issued an exposure draft, *Amendment to SAS No. 55, Consideration of Internal Control in a Financial Statement Audit, as amended by SAS No. 78, Consideration of Internal Control in a Financial Statement Audit: An Amendment to SAS No. 55*. The proposed statement provides guidance to auditors about the effect of information technology on internal control and on the auditor's understanding of internal control and assessment of control risk. For additional information, see the AICPA Web site address in the Appendix of this Alert.

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ments, spreadsheets, and server logs. E-business transactions are subject to intentional and unintentional alteration and manipulation at many points between transaction initiation and summarization in the financial statements. E-businesses generally lack much of the physical evidence found in traditional audits; therefore, the auditor's approach to understanding internal controls when planning the e-business audit and determining the nature and extent of substantive tests must take this into account.

### **The Importance of Software Controls**

One important factor to consider regarding controls in the e-business environment relates to software. Most e-business server software is constantly upgraded, modified, and configured with components from different vendors. Often, when software is upgraded, previous control settings are lost, with no warning to managers. If procedures are performed before year end, the auditor has additional responsibility to consider whether there are frequent and significant changes being made to e-business systems that might affect the remainder of the period. According to SAS No. 55 (AU sec 319.73):

When an auditor obtains evidential matter about the design or operation of controls during an interim period, he or she should determine what additional evidential matter should be obtained for the remaining period...The auditor should obtain evidential matter about the nature and extent of any significant changes in internal control, including its policies, procedures, and personnel, that occur subsequent to the interim period.

Another factor to consider regarding the use of business software relates to the spreadsheet, word processing, and other business software that auditors use on a regular basis. Such software is likely to be inadequate to perform analysis of e-business transactions in an efficient manner due to the nature of electronic evidence. Specially designed auditing software is available and can provide a way to increase the value of the audit by ferreting out control weaknesses as well as increasing the number of records that can be audited. In some e-business systems, it may be im-

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possible to efficiently discover control weaknesses without special network monitoring software.

The use of special audit software also requires mention of these important considerations. Operating system and e-business application software is often installed at the default settings, which generally leave accounting records wide open to unauthorized access and alteration. For example, popular operating systems include built-in accounts with default passwords or no password at all. Default passwords to operating systems are well known to hackers and widely published on the Internet at hacker Web sites. They are the easiest way to gain unauthorized access to the system and usually the first thing those desiring unauthorized access will try.

In order to test controls over e-business, auditors need access to networks, servers, and databases where companies store their accounting records. Information technology managers might be reluctant to grant auditors the level of access they need, preferring, instead, to provide lengthy printouts, files on diskettes, or files as e-mail attachments. Access to copies of records in these forms is insufficient. E-business auditors must have full read access rights to all system and database security settings and tables as well as the underlying electronic accounting records in order to gain a sufficient understanding of controls and to perform substantive tests. Sometimes this will require the CFO's involvement to obtain this type of access.

As we discussed previously in this alert, e-business transactions may be initiated by a trading partner's software. Customer and supplier computers may be directly linked to the e-business' computers with Internet technologies. Customer software may detect its own increased sales volumes, low inventory levels, or the e-business' price changes and automatically issue purchase orders based on pre-set rules. Or, the e-business' software may be able to read the customer's computer databases and issue sales orders based on customer sales volumes or inventory levels. The e-business may have similar electronic relationships with suppliers. When transactions are automatically initiated between customer

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and supplier computers, the trading parties should require an independent auditor's report on controls at the other party.

E-business software should include controls to prevent repudiation or alteration of records that initiate transactions. Such controls include digital signatures, one form of electronic signature described more fully in the following section, and server certificates that authenticate the parties to the transaction. Digital signatures help reduce the likelihood of the parties claiming that they never initiated the transaction or that the record of the terms of the transaction has been altered. Without server certificates, an initiator of a transaction has no assurance that it is dealing with the intended party's computer.

Digital signatures are also used to encrypt transactions to detect any alteration in the original message after transmission and to prevent unauthorized parties from seeing the information. Without a digital signature and encryption, alteration of a transaction transmitted over the Internet is a trivial exercise. Also, without digital signatures and server certificates, it is easy for an imposter to spoof the sending and receiving parties so that the true parties do not really know who they are dealing with. Without digital signature and server certificates, it may be difficult to determine that transactions are not fictitious or fraudulent.

### **Electronic Signatures**

On October 1, 2000, the Electronic Signatures in Global and National Commerce Act, known as E-Sign, took effect, which established the legality of electronic signatures for most business, consumer, and government contracts and records. An electronic signature can be "an electronic sound, symbol, or process, attached to or logically associated with a contract or record and executed or adopted by a person with the intent to sign the record."<sup>5</sup> This means that a party to a transaction can sign by a mouse click, a user ID and password, the swipe of a smart card, a signature scrawl with a stylus on an electronic tablet, or a cryptographic digital signature.

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5. "New Electronic Signatures Law," Mondaq Business Briefing, Mondaq Ltd (August 11, 2000).

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The law also allows, effective March 1, 2001, for statutory and regulatory requirements, the retention of originals of contracts, checks, and other documents through electronic means, so long as the information is accurate and accessible and can be reproduced. By making electronic signatures equivalent to paper signatures, transactions such as opening bank and brokerage accounts and entering into insurance contracts, loans, and business contracts can now be done over the Internet, immediately, twenty-four hours a day, seven days a week. Before the law took effect, these types of transactions could take weeks, as paper contracts had to be drawn up, pen and ink signatures obtained, and documents exchanged through the mail. For example, Fidelity Investments, Vanguard Group, and American Century Investments all plan to allow investors to open new accounts on the Internet without filling out, signing, and mailing paper application forms.

Estimated lower cost savings for brokerage houses using electronic signatures for transactions rather than paper signatures vary from 50 percent to as much as 90 percent. The cost savings, increased speed of transactions, and reduced record storage are expected to result in 80 percent of all financial transactions being completely automated within five years.<sup>6</sup>

The boon electronic signatures bring to e-business is not without threats. Consumers and businesses may be reluctant to sign documents electronically, fearing fraud. Clients considering offering electronically signed online transactions should be made aware of new assurance services such as CPA WebTrust<sup>SM</sup> and SysTrust<sup>SM</sup> (see the “Beyond the Audit” section of this Alert). CPAs can provide these services to clients to help allay fears that consumers and businesses may have concerning this new way to sign documents and to conduct transactions.

### **The Importance of Monitoring**

A key control in a system of internal control is monitoring. Routers, firewalls, Web servers, e-mail servers, databases, and operating systems all have the ability to log traffic and specific security events. Properly implemented and controlled logs can

6. : “E-Signatures Become Valid,” the *New York Times* (October 2, 2000).

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provide some evidence that a transaction occurred and that the transaction record has not been altered. When network administrators disable logging functions because they believe it impedes performance, which logging may do if improperly implemented, most e-businesses don't necessarily know that their records have been altered until it's too late, and then they have no audit trail to follow. Those administrators who do enable logging rarely retain the logs or protect the logs themselves from alteration, reducing their credibility as audit evidence. Independent audits of controls at third parties, along with the use of digital certificates, encryption, access controls, and logging, help provide evidence for the auditor regarding the integrity of recorded transactions.

To reduce the chance of an auditor relying on evidence that lacks credibility, he or she must understand the key controls over validity, completeness, and integrity. In an electronic environment, these typically include—

- *Segregation of duties*—The duties of security administration, security monitoring, system administration, application maintenance, software development, and daily accounting operations should be performed by different employees.
- *Authorization*—User access to networks, systems, servers, services, programs, data, and records should be authorized based on the company's security policy and documented.
- *Authentication*—The identity of authorized users should be established by the use of logon IDs, hard-to-guess and hard-to-crack frequently changed strong passwords, and, where appropriate, smart cards.
- *Access limitations*—Authorized users should only be granted network access after they authenticate themselves, and their access rights should be commensurate with their job responsibilities.
- *Activity logging*—Logging should be enabled on all routers, firewalls, servers, databases, and operating systems. The

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logs should be protected from tampering and alteration and should be retained.

- *Independent monitoring*—Employees independent of the IT department should monitor the activity logs on a frequent enough basis to detect suspicious, unusual, and unauthorized activity.
- *Software development life cycle (SDLC) standards*—E-business should adopt authoritative standards for the development and implementation of new e-business systems.
- *Sequentially numbered records*—Financial transaction journals such as sales orders, sales invoices, purchase orders, cash receipts, and adjustments should be sequentially numbered to control for completeness.
- *Methods of error correction*—E-business software should have control rollback procedures so that records are not purged or lost when servers crash and programs abort. Controls preventing changes to historical records should be in place so that errors are corrected by adjusting entries made by the accounting department. Programmers and other IT personnel should not make changes to actual accounting records.
- *Backup procedures*—Grandfather, father, and son daily backup procedures should be performed as well as weekly, monthly, quarterly, and annual backups. All files that include the details of transactions should be included in the backup. The accounting department with the advice of legal counsel should establish retention schedules to satisfy legal and regulatory requirements. The backup media should have clear exterior identification, and there should be an off-line log and inventory of what was backed up, when, by whom, and where stored. Backups should be stored in a safe location off-site and tested periodically by the accounting department.
- *Disaster recovery*—The nature of e-business often requires that systems be capable of operating twenty-four hours a

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day, seven days a week. Even short periods of outage may mean a significant financial loss to some e-businesses. There should be a written plan on how systems will roll over to alternative systems should the data center be destroyed or rendered inoperable. The plan should be periodically tested by the accounting department.

The strength of controls in an electronic environment is like a chain, where strength is determined by the weakest link. Auditors should consider whether any weak links are present and, if so, consider the need to adjust their risk assessment and substantive tests accordingly.

### **How Does E-Business Change the Nature of Evidential Matter?**

We've described e-business controls in sufficient detail to illustrate the idea that good controls and reliable audit evidence are inextricably linked. According to the AICPA Auditing Practice Release *The Information Technology Age: Evidential Matter in the Electronic Environment* (Product No. 021068kk):

The intended purpose of electronic evidence does not differ from traditional forms of evidence, but it is distinguished by the need for controls to ensure validity.

The competence of the electronic evidence usually depends on the effectiveness of internal controls over its validity and completeness. A major consideration for auditors is the credibility of the evidence obtained. For e-business audits, there may be few or no physical documents to examine. Without testing the internal controls surrounding the electronic evidence (for example, controls over generation, storage, manipulation, and transmission), the auditor may not recognize a lack of credibility.

A detailed understanding of internal control over e-business transactions and control testing requires that you keep the following in mind: According to SAS No. 1 (AU sec. 150.02, "Generally Accepted Auditing Standards"):

Sufficient competent evidential matter is to be obtained through inspection, observation, inquiries, and confirmations



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to afford a reasonable basis for an opinion regarding the financial statements under audit.

### **Report From Service Organizations**

Many clients use an Internet service provider (ISP) to host their Web site, including the databases used to initially record sales and credit card receivables. In some cases, ISP servers provide fulfillment by allowing users to immediately download their purchase after credit approval for software, digitized music, videos, books, and other electronic documents.

ISPs are computer service bureaus. Similar types of entities providing computer services to businesses have been operating for decades. For clients that use traditional service bureaus, auditors can sometimes obtain a report on controls from the service organization according to SAS No. 70, *Service Organizations* (AICPA, *Professional Standards*, vol 1, AU sec. 324.24-.56) as amended by SAS No. 88, *Service Organizations and Reporting on Consistency* (AICPA, *Professional Standards*, vol. 1, AU secs. 324 and 420). The report would include either of these two types of guidance: (1) reports on controls placed in operation, or (2) reports on controls placed in operation and tests of operating effectiveness. Unfortunately, due to the newness of e-business, an auditor is unlikely to obtain an SAS 70 report from an ISP that hosts the entity's Web site. If the auditor cannot obtain a SAS 70 report or be granted access to the ISP to gain an understanding and test internal control, he or she may have to consider a scope limitation.

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### **Executive Summary—Audit Issues Affecting E-Business**

- One audit implication of sometimes “short-term” electronic evidence in e-business audits is that waiting until after fiscal year end to begin auditing procedures may be too late to obtain competent sufficient evidence of controls or transactions.
- The use of an outside specialist in an e-business context does not absolve the auditor from a certain level of understanding about computers.
- Since e-businesses generally lack much of the physical evidence found in traditional audits, the auditor must obtain a broader un-

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derstanding of internal controls to plan the audit and determine the nature and extent of substantive tests.

- E-business software should include controls to prevent repudiation or alteration of records that initiate transactions. Such controls include digital signatures, one form of electronic signature, and server certificates that authenticate the parties to the transaction.
  - To reduce the chance of an auditor relying on evidence that lacks credibility, he or she must understand the key controls over validity, completeness, and integrity, which include, among other things, segregation of duties, authorization, authentication, access limitations, independent monitoring, backup procedures, and disaster recovery provisions.
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## **Other Internal Control Considerations**

*What internal control considerations may be especially relevant to e-business?*

The report of the Committee of Sponsoring Organizations (COSO) of the Treadway Commission is the source of many definitions used in SAS No. 55 as amended by SAS No. 78 (AU secs. 319.01, 319.02-.40, and 319.84). Although the framework was developed before the concept and practical implementation of e-business, it identifies the following special circumstances that you might want to consider according to SAS No. 47, *Audit Risk and Materiality* (AICPA, *Professional Standards*, vol. 1, AU sec. 312) when assessing the risk of e-businesses:

1. Changed economic operating environment
2. New personnel
3. New or revamped information system
4. Rapid growth
5. New technology
6. New lines, products, and activities
7. Corporate restructuring

We discuss each of these circumstances in turn.

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## Changed Economic Operating Environment

E-business has dramatically changed the operating environment in many industries. Many new dot-coms are built upon alliances with other traditional companies or other dot-coms. Others have or received large equity investments from wealthy venture capitalists, powerful investment banks, or large corporations. In a change of roles, new companies that enter established markets are often better financed than incumbent market share leaders.

For example, consider Dan's Chocolates, [www.Dans.com](http://www.Dans.com). Founded in August 1999, the company's management had high-tech experience, but no experience in the chocolate business. Their business plan called for ramping up by the 1999 holiday season. They were able to forge an alliance with Blue Mountain Arts, a large Internet greeting card company, for capital as well as access to Blue Mountain's huge Internet customer base. By Valentine's Day and Mother's Day of the following year, the number of visitors to Dan's Web site equaled that of Godiva, one of the chocolate industry's incumbent market share leaders.<sup>7</sup>

Or take General Motors (GM) as another example. Although GM is the largest industrial organization in the world, it feared loss of market share and inroads into its prime markets by Internet start-ups. Rather than go it alone, the company created alliances with America Online and Kelly Blue Book with the goal of driving potential visitors to its Web site, [GMBuyPower.com](http://GMBuyPower.com). The strategy succeeded. GM vice president and chief information officer (CIO) Ralph Szygenda credits the alliances with doubling GM's Web site traffic to 1.2 million visitors per month within six months.

Not only do traditional businesses entering e-business face competition from well-financed new entrants, but their managers may also be at a technical disadvantage relative to the managers of new dot-coms. who might have grown up in an open network en-

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7. Ajit Kambil, Erik D. Eselius, and Karen Monteiro, "Fast Venturing: The Quick Way to Start Web Business," *Sloan Management Review*, summer 2000.

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vironment or have prior experience with successful technology leaders.

Even though e-business start-ups have recently taken a beating in the stock market, they continue to challenge traditional companies. Their current low share prices, driven by investor demands for profit, puts even greater pressure on e-business executives to capture market share from market incumbents, regardless of whether their competitors are established companies or other start-ups. Boards of directors and CEOs of established companies recognize that the strategy of new Internet start-ups like Drugstore.com and Webvan is to capture their market share and “deconstruct” their company and industry. To maintain their market share and keep their companies from being deconstructed by outsiders, they realize the opportunities and threats the Internet presents and, as a result, pressure senior management to establish an Internet presence quickly. However, this pressure, coupled with financial and skilled human resource shortages, can increase control risk.

### **New Personnel**

The scarcity of qualified high-tech personnel has fed the demand for these personnel, and consequently such employees often do not stay at one company very long. They can be lured away from one company to another by higher compensation, better stock options packages, or other benefits. In addition to the high turnover and, perhaps, even adding to the financial incentives for employees to jump ship, new managers of e-business subsidiaries or divisions of larger companies may have goals that conflict with the corporate mission and may be unwilling to conform to corporate cultures or norms.

For example, established companies such as AT&T, IBM, and Lucent have made the Internet the core of their business strategies. To do this, they recruit recent graduates schooled in Internet technologies. However, these companies have business and technology corporate cultures driven by policies, procedures, and lines of communication established over generations. Although these companies typically do not share the media spotlight fo-

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cused on new Internet start-ups, they still are and strive to be major innovators for business and technology that other companies watch and imitate. New personnel that grew up in the technology age are expected to be innovators. However, at established companies, their energies can sometimes be restrained, challenged and, perhaps in their eyes, stifled by a system that forces their ideas through a daunting multilevel bureaucratic environment. No wonder forward-thinking employees are lured away by the attraction of new e-business companies that offer horizontal lines of communication and a fast track for their ideas to become reality.

### **New or Revamped Information System**

When an established business decides to adopt Internet technologies, it often finds it is not feasible for business and technology reasons to just pull the plug on the old systems. Therefore, adding new e-business operations usually requires integration between the legacy, or old, systems and new Internet technologies. Such integration introduces instability, errors, and new control weaknesses in previously reliable financial systems.

The new e-business systems have vastly different software and hardware architecture than the older mainframe, minicomputer and client-server systems. IT and business line managers who are pressured by senior management into bringing new e-business systems online as quickly as possible find great complexity in integrating new and legacy systems. Often a company's Internet strategy is a "rush to be first to market." If senior management is not aware of the amount and type of complexities involved in the integration of new and old systems, it may set unrealistic deadlines. If there is undue time pressure to get systems running, IT managers and consultants might take shortcuts, treat controls as an afterthought, or ignore financial controls completely. These actions do not lead to a good control environment and, when taken together, increase audit risk.

### **Rapid Growth**

When companies open their e-business doors, they have expanded their potential market from their own geographic area

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and existing customer base to the world and its global market. Users find quality sites quickly because news of them is spread in a viral manner. When an e-business has not accurately predicted sales and provided for systems flexibility and scalability, existing controls may fail. Unplanned e-business volume can lead to breakdown in controls in fulfillment, customer service, and support. In many cases, new employees and managers hastily added to support functions during a seasonal or other crush might be unfamiliar with controls. Unexpected rapid growth in Web site visitors during a specific period of time may cause servers and databases to crash, logs and hard drives to fill to capacity, and accounting records to be lost.

These issues came home to roost for many e-businesses during the 1999 holiday shopping season. Beginning around Thanksgiving, many online retailers' deliveries started taking weeks to show up, order tracking systems were useless, and customer service lines were clogged.

### **New Technology**

As discussed in the introduction of this Alert, two of the key new technologies that will affect companies that conduct e-business and their auditors are broadband and wireless technologies. Broadband technology is a means to quickly deliver to users' PCs huge amounts of data, including music, videos, software, and financial data in an always-on environment. Wireless technology allows users to remotely access information, such as stock reports, weather, sports scores, e-mail, and games, from anywhere at any-time. Wireless also allows users to conduct e-commerce and e-business transactions.

Broadband and wireless technologies both pose similar problems for e-businesses. First, their use will require existing systems to be integrated with their newer broadband and wireless technologies. The underlying hardware and software architectures of broadband and wireless will have to be compatible with newer systems. Second, planned broadband and wireless server software and hardware will have to be scalable if future usage levels soar beyond expectations.

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Gartner Group predicts that by 2005 broadband users will spend twenty times more money than dial-up Internet users. Vertical Systems Group predicts more than 50 percent of all businesses and 15 percent of households will have broadband connections by 2004. By implementing broadband, companies can decrease the time, effort, and cost to get information. This savings translates directly to the bottom line through quicker and more informed decision making. When the cost of information is a key cost of operations and delivery, the savings broadband offers is even greater.

Wireless Internet usage is predicted to skyrocket in the next three years. Internet-enabled wireless devices are expected to increase to over 400 million by 2003.<sup>8</sup> Like broadband, one of the threats to e-businesses of wireless technology is failing to adopt it when competitors do. If competitors' offerings are available anytime and anywhere, that may translate into lost sales and lost market share for the e-business that fails to adopt. Companies that do implement wireless will have to face the technological challenges of integrating yet another service into their network.

One control issue to consider for wireless e-business systems is recording of the transaction on the wireless device side. Often, Web sites confirm a transaction by sending an e-mail. Whether used for consumer Internet purchases or B2B transactions, wireless devices will have to have the capability to save transaction information.

### **New Lines, Products, and Activities**

When companies add new lines, products, and activities, existing managers of the old legacy systems may not understand the controls in the new system. Conversely, new managers of new activities may not understand existing corporate control policies. The end result could be that new systems are beyond the control of either old or new managers.

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8. "Investing in the Mobile Internet," by Vik Mehta and Barry Kaplan, Goldman Sachs, the *New York Times* (August 21, 2000).

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## Corporate Restructuring

A corporate restructuring occurs when a company tries to improve its future operations and increase its value by changing its business strategy or financial structure. Restructurings usually include, among other things, discontinued operations, layoffs, and downsizing. In addition, restructurings may include the development of new systems in addition to employee training, and acquisition of new debt or new equity owners. Layoffs and downsizing, once unthinkable in the Internet industry, have become commonplace as companies try to cut costs to reach profitability. The *San Francisco Chronicle* reported on August 10, 2000, that during 2000 120 dot-com companies had laid off 7,500 employees. A little more than one month later, the *San Jose Mercury News* reported that layoffs by dot-coms had swelled to 16,600 since last Christmas. We've heard about dot-coms laying off employees, for example, Amazon.com, which laid off 150 employees; NBC Internet, which cut 170 jobs, or almost 20 percent of its workforce; and AltaVista, which laid off 225 employees.

All of the different types of corporate restructurings create control issues for auditors of e-businesses. Companies may underestimate the complexity, extent, and cost of the change and the expertise needed to modify their business strategies. Downsizing and layoffs create situations where there is inadequate supervision and segregation of duties or a key control function is eliminated. Making changes in the financial structure, such as increasing debt or adding new equity owners, may put pressure on management to manipulate income to maintain debt covenants or to meet or exceed analysts' earnings expectations. Management also could attempt to increase future earnings by including future costs in the loss accrual for discontinued operations or restructuring.<sup>9</sup>

*Risks of e-business mergers and acquisitions.* Some established businesses decide to purchase e-business technology and market share by acquiring an existing e-business rather than taking the

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9. "New Guidance in Accounting for Corporate Restructuring: EITF 94-3," by Thomas Weinrich, the *CPA Journal* (June 1995).



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risks of developing the technology themselves. For example, in July 2000, Bertelsmann, the giant media and publishing company, purchased CDNow, one of the leading online music stores. Sometimes an e-business acquires an established company to increase distribution channels or acquire content, as in AOL's proposed acquisition of Time Warner in 2000. In other cases, pure e-businesses merge.

In the last quarter of 1999 and during the first half of 2000, the pace of e-business mergers and acquisitions accelerated. For example, in November 1999 shareholders of Healthcon and WebMD, rival Internet providers of health and medical information and services, approved a merger of their companies. Three months later, in February 2000, the combined Healthcon/WebMD acquired its rival CareInsite Inc. and CareInsite's parent Medical Manager Corp.

E-business mergers face the same risk as all mergers and acquisitions—that corporate cultures may clash. For example, when AOL acquired Netscape in March 1999, it also acquired Netscape's engineers and programmers. However, a short time after the merger was consummated, many of Netscape's employees terminated because of the vast difference in corporate cultures between the two companies.

### **The Risk of Financial Fraud**

The auditor must obtain reasonable assurance about whether the financial statements are free from material misstatements, whether caused by error or fraud, according to SAS No. 1 (AICPA, *Professional Standards*, vol. 1, AU sec. 110.02, "Responsibilities and Functions of the Independent Auditor").

For e-businesses, management could have both the incentive and means to fraudulently manipulate their financial statements. According to SAS No. 82, *Consideration of Fraud in a Financial Statement Audit* (AICPA, *Professional Standards*, vol. 1, AU sec. 316.06), fraud frequently involves a pressure or incentive to commit fraud. The lack of government regulation or industry self-regulation of e-business and, in some cases, the lack of established

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accounting practices relative to the industry could provide management with the motivation to manipulate income.

SAS No. 82 specifically recognizes certain conditions as risk factors that motivate management to engage in fraudulent financial reporting—when a significant portion of management compensation is represented by bonuses, stock options, or other incentives, and when there is an excessive interest by management in maintaining or increasing the entity’s stock price. SAS No. 82 (AU sec. 316.17) also identifies other factors that increase the risk of fraud, such as a high degree of competition or market saturation, and rapidly changing technology or rapid product obsolescence, all of which are present in the e-business environment.

Due to the opportunity for fraud to be present in audits of e-businesses, SAS No. 82 indicates that auditors should consider whether specific controls exist that mitigate the risks (AU sec. 316.21). Mitigating controls at larger companies may include an effective board of directors, audit committee, or internal audit function. Smaller companies may have an environment that fosters integrity and ethical behavior as well as management by example, according to SAS No. 82 (AU secs. 316.21-.22).

If the auditor believes there is a high level of fraud risk during the audit of an e-business, he or she may choose to perform detailed substantive analytical procedures or conduct interviews in areas where fraud may be present. For potential fraud related to revenue recognition issues, the auditor may decide to confirm certain relevant terms of customer contracts, according to SAS No. 82 (AU secs. 316.29-.30). According to SAS No. 82 (AU section 316.35), if the auditor determines that a misstatement is the result of fraud, he or she should—

- Consider the implications for the other aspects of the audit.
- Discuss the matter with the appropriate level of management.
- Attempt to obtain additional evidence to determine whether material fraud has occurred.

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- If appropriate, suggest the client consult with legal counsel.

For some clients, the auditor may have a duty to disclose the circumstance of the fraud to outside parties. For public clients, if the fraud or related risk factor(s) results in the termination of the engagement, is considered a reportable event, or is the source of a disagreement, the auditor may be required to report this situation to the SEC on Form 8-K as described in Item 304 of regulation SC and regulation SB. If fraud is present, other reports may also be required by section 10A(b)1 of the Securities Exchange Act of 1934 (SAS No. 82, AU sec. 316.40).

## **Analytical Procedures**

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*How can you use analytical procedures for substantive tests in audits of e-businesses?*  
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According to SAS No. 56, *Analytical Procedures* (AICPA, *Professional Standards*, vol. 1, AU sec. 329), analytical procedures are a required procedure in the planning and review stage of the audit, but also may be more efficient than tests of details for some substantive tests. The fact that e-business transactions lend themselves so well to analytical procedures offers auditors a great opportunity to reduce audit costs by reducing tests of details. However, if you are using analytical procedures for substantive tests, the underlying controls and data must be reliable and available.

If there are no physical records of sales orders, sales invoices, purchase orders, receiving reports, customer remittance advices, or credit card settlement because all of these records are electronic, what kind of tests can the auditor perform? Would testing a random sample of printouts of these records be a sufficient audit procedure and the results credible evidence? Not likely. How does the auditor perform substantive testing in this case? According to SAS No. 56 (AU secs. 329.01 and .03), analytical procedures also used as a substantive test to obtain evidential matter about particular assertions related to account balances or classes of transactions. In some cases, analytical procedures can be more

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effective or efficient than tests of details for achieving particular substantive testing objectives. For some assertions, according to SAS No. 56, analytical procedures are effective in providing the appropriate level of assurance (AU sec 329.10).

The expected effectiveness and efficiency of an analytical procedure in identifying potential misstatements depends on, among other things...the availability and reliability of the data used to develop the expectation, and the precision of the expectation (AU sec 329.11).

Whether the data was developed under a reliable system with adequate controls is one factor that will influence the auditor's consideration of the reliability of data for purposes of achieving audit objectives (AU sec. 329.16).

Analytical procedures are a means by which the auditor develops plausible relationships between account balances, transaction summary totals, period-to-period comparisons, or company-to-industry comparisons. Unfortunately, for many e-businesses, there may not be enough historical data to perform period-to-period comparisons, or basic assumptions and conditions may change from period to period. Industry comparisons are also not likely since e-business is still in an embryonic stage and, as a result, there are not yet reliable sources of industry data.

Even though period-to-period and historical comparisons may not be meaningful, there are several analytical procedures that you can perform for e-businesses. For example, it is possible to compute the ratio of daily sales to Web site hits for each day in the audit period. An unusually low ratio for a day when compared to the average ratio could indicate that some e-business transactions were not recorded or that they could have been deleted or recorded in some other file. A low ratio of daily sales to Web sites hits also could indicate that the Web server was up but the e-commerce server was down. This condition could be verified if server logs were retained and protected during the period in question. On the other hand, security logs might indicate if anyone deleted or changed accounting records on the day in question if audit logging was enabled and those logs retained. An unusually high ratio of daily sales to Web site hits could indicate

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that the company ran a special with attractive sales prices that increased total sales, or it could indicate that unauthorized changes to accounting records were made to create fictitious or fraudulent sales.

Another useful analytical procedure is the comparison of daily sales to daily credit card collections. In this case, the figures used for the credit card collections could be obtained from the company's bank or third-party credit card processor. Unusually high ratios could indicate the possibility of overstated sales. An unusually low ratio could indicate unrecorded sales.

As long as there are strong controls on the underlying e-business records to protect them from unauthorized alteration or destruction and to detect unauthorized access and changes, the auditor may use analytical procedures for substantive testing, as appropriate. One advantage of analytical procedures for e-business is that it is possible to test 100 percent of the records making up an account balance. In summary, when performing analytical review procedures, be sure to refer to SAS No. 56 and consider all aspects of the guidance provided therein.

## **Going-Concern Issues**

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### *What going-concern issues does e-business raise?*

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The period between 1998 and the first two months of 2000 was a time of dramatically rising share prices of e-business companies. For example, at the beginning of 1998, Amazon.com's adjusted stock price was under \$10 per share, Yahoo.com was under \$15 per share, Exodus Communications was trading at under \$5 per share, and E\*Trade was trading at about \$8 per share. By the end of February 2000, Amazon.com's shares had risen to about \$70 per share, Yahoo was trading at \$150 per share, Exodus was trading at about \$45 per share, and E\*Trade was trading at \$30 per share.

Although many e-businesses had a continuing series of increasing losses as their share prices rose, investors chose to ignore the losses when valuing e-business stocks. Perhaps this was because there is no established way to value Internet companies or predict their

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wide swings in prices. Investors used growth in quarterly sales, the numbers of unique visitors, announcements of contracts or mergers, or various other criteria to value e-business shares. But, stock price run-ups of these companies could have resulted from nothing more complicated than simple rumors churned in Internet chat rooms, dot-com mania hyped by the media, or Internet stock optimism spread via e-mail.

Even in a market with no reliable way to value shares of e-business companies, management still expected to continually finance future operations with new equity funding. However, the hopes of money-losing dot-coms receiving future equity investments began to unwind in March 2000 when Arthur Anderson qualified their audit report on CDNow, a former Internet high-flier.

What is the impact on auditors of the market's recent correction of Internet-related share prices? Auditors with e-business clients need to look carefully at clients' short-term cash requirements and cash-generating ability. These two factors are critical enough for survival to prompt auditors to consider whether clients that require additional equity investments in the next twelve months to maintain operations can continue as going concerns.

Many e-businesses have already suffered defeat in the marketplace, and more are expected to do the same in the near future. Most e-business sectors have more players than their sector can support. For example, on August 8, 2000, *Business 2.0* reported in its B2 index nineteen companies offering business services, twenty companies offering interactive services, fourteen B2B marketplaces, nineteen portals, and eleven retail Internet companies. Why is the number of competitors a factor in the ability of many dot-coms to survive? There is little chance that an e-business with a history of increasing losses that requires equity financing in a market of many competitors will be able to obtain such financing. Unless equity financing is readily available, the question of survival becomes paramount.

Ordinarily, information that significantly contradicts the going-concern assumption relates to the entity's inability to continue to

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meet its obligations as they become due. If the auditor believes that there is substantial doubt about the entity's ability to continue as a going concern for a reasonable period of time, he or she should (1) obtain information about management's plans that are intended to mitigate the effect of conditions or events (leading to going-concern issues), and (2) assess the likelihood that such plans can be effectively implemented. See SAS No. 59, *The Auditor's Consideration of an Entity's Ability to Continue as a Going Concern* (AICPA, *Professional Standards*, vol. 1, AU sec. 341.01 and .03b).

## **Accounting Issues Affecting E-Business**

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*What important accounting issues warrant consideration for your e-business clients?*

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Accounting for e-business involves the application of many complex accounting principles and transactions for which there may be diversity in practice or no authoritative guidance. The diversity in accounting treatment for e-business transactions leads to incomparable financial statements and potential earnings-management issues and may cause investors to rely on unaudited sources of information for stock valuations and investment decisions.

Accounting regulators and standard setters are aware of the issues raised by the diversity in accounting by e-businesses. The SEC staff has identified several accounting issues for Internet operations that the Financial Accounting Standards Board (FASB) Emerging Issues Task Force (EITF) is addressing (see the section "SEC Accounting Issues Related to Internet Operations" appearing later in this Alert). Further interest in Internet-related accounting comes from the EITF, which has placed on its agenda many of the Internet accounting issues identified by the SEC.

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## Stock Options

*Why are stock options important to e-business, and how should companies account for them?*

Knowledgeable workers are the prime assets of e-businesses and are the key to wealth creation. Accounting for their compensation sometimes raises difficult accounting issues when e-businesses include stock options in employee compensation packages. E-businesses grant stock options to essential employees to attract, motivate, and retain them. They also grant stock options, awards of stock, or warrants to consultants, contractors, vendors, lawyers, finders, lessors, and others. Issuing equity instruments makes a lot of sense, partly because of the favorable accounting and partly because equity conserves cash and generates capital.

There are two permissible alternative accounting treatments for employee stock options: Accounting Principles Board (APB) Opinion No. 25, *Accounting for Stock Issued to Employees*, which uses the intrinsic value method, and FASB Statement of Financial Accounting Standards No. 123, *Accounting for Stock-Based Compensation*, which uses the fair value method. Most e-businesses choose APB Opinion 25, which is relatively easy to apply. Under APB Opinion 25, total compensation, for fixed plans, is measured at the grant date as the difference between the option exercise price and the market price of the stock. Since the exercise price usually equals the market price, no compensation cost is recorded. However, when APB Opinion 25 is used in the basic financial statements, FASB Statement No. 123 accounting must also be used, but its effect is reflected in the footnotes. On the other hand, FASB Statement No. 123 more closely represents the underlying economic event. FASB Statement No. 123 requires charges to income based on the fair value of the option at the date of grant amortized over the employee's service period (which is usually the vesting period) as well as expanded footnote disclosures. One key issue in auditing stock options is the difficulty in verifying all the factors that the option pricing model (such as Black-Scholes) requires, especially the life of the option and the expected volatility factors. Also, a complicating factor is estimating forfeitures.



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Stock options granted to consultants, contractors, and nonemployees for services rendered or goods purchased must be accounted for in accordance with FASB Statement No. 123. Companies must use the fair value method, not the intrinsic method. EITF Issue 96-18, *Accounting for Equity Instruments That Are Issued to Other than Employees for Acquiring, or in Conjunction with, Selling Goods or Services*, offers guidance in applying FASB Statement No. 123 for these transactions.

With the downturn in share prices of many e-businesses continuing through the fourth quarter of 2000, the stock options previously granted to many essential employees may now have lost much of their worth. In order to retain these employees, many companies may reprice the options. FASB Interpretation No. 44, *Accounting for Certain Transactions Involving Stock Compensation*, an Interpretation of APB Opinion 25; EITF Topic D-91, *Application of APB Opinion No. 25 and FASB Interpretation No. 44 to an Indirect Repricing of a Stock Option*; and EITF Issue 00-23, dealing with thirty-one practice issues and questions related to accounting for stock compensation, will help auditors resolve the complex accounting issues that may arise. FASB Interpretation No. 44 discusses modifications to stock options that reduce the exercise price, either directly or indirectly, or extends or renews the life, among other issues. The Interpretation sets out requirements for fixed option awards to be reclassified as variable for changes in the exercise prices or the life made after December 15, 1998. The change from a fixed to variable plan triggers the requirement to record income statement charges (or credits) at each reporting date. So, while the intrinsic value of the option may be zero at the repricing (or modification) date, from that date until final exercise (or expiration or forfeiture), the company must report an expense or reversal of that expense even though the options are not vested. This expense is the difference between the fair value of the shares at each balance sheet date and the exercise price.

The change in accounting triggered by repricing requiring compensation to be recorded has no effect on cash flow; however, it may reduce net income and earnings per share (EPS). In the cur-

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rent market climate in which investors are beginning to use traditional valuation models, lower EPS caused by repriced options may have a significant effect on share price and on the ability of e-businesses to secure new rounds of funding. Auditors should be aware that, since repricing may result in lower net income and EPS and may reduce the chances of dot-coms being funded, management should be made aware of the consequences of making any modification to their option plans and outstanding options and the financial statement impact of giving equity instruments to nonemployees.

### **Other E-Business Accounting Issues**

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*What accounting issues are investors interested in when evaluating Internet companies?*  
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Merrill Lynch's Web site at [www.e-commerce.research.ml.com/](http://www.e-commerce.research.ml.com/) identifies several essential e-business accounting issues of interest to auditors. The company's research presents these issues from the point of view of investors evaluating Internet companies. Seven of the areas Merrill Lynch discusses are—

1. Recognition of costs.
2. Goodwill and intangible assets.
3. Research and development costs.
4. Contingency losses.
5. Start-up activity costs.
6. Footnote disclosures.
7. Asset impairment.

#### **Recognition of Costs**

Customer solicitation and software development costs are key costs for e-businesses that present cost recognition issues. Currently, there is diversity in accounting for these costs by Internet companies—they could either capitalize or expense the costs—

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which makes it difficult to compare their financial statements. If they capitalize the costs, amortization periods for essentially the same transactions could differ between companies. Compounding the problem is the practice by some established companies masking these costs by spreading them across existing operations.

When alternative accounting treatments give management the ability to choose between capitalizing or expensing a cost, management may use the alternatives to manage earnings. If investors cannot compare audited financial statements reliably, they may turn to potentially unreliable sources of information as a basis for their investment decisions. The use of unreliable information can cause volatility in stock market prices, misvaluation, and losses for investors.

*Customer solicitation costs.* In order to gain market share, many dot-com companies spend a large percentage of their resources on customer solicitation costs. These costs may be in the form of direct response advertising, such as click-through banner ads, paid-for URL links, diskette mailings, direct e-mail, or Internet-enabled interactive cable and satellite television broadcasts.

The purpose of customer solicitation costs is not just to increase current sales. Rather, it is to establish a customer base. Many investors partially base the valuation of Internet companies on the growth of their customer base and consider it a valuable asset. The customer base provides future benefits to a business so, in that case, isn't capitalization a more appropriate treatment for the cost that gives rise to it?

When auditing e-business customer solicitation costs, auditors should apply the provisions of Statement of Position (SOP) 93-7, *Reporting on Advertising Costs*. Capitalization and amortization of costs of direct-response advertising is required for sales to customers (1) shown to have responded specifically to the advertising and (2) that result in probable future economic benefits. Since one of the purposes of much Internet advertising is to link targeted advertising to specific customers, it follows that capital-

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ization and amortization of some customer solicitation costs may be the appropriate accounting treatment.

**Software development costs.** E-business software is a major asset of Internet companies. Many companies internally develop their own software, which can become a source of competitive advantage. Other companies purchase off-the-shelf e-business software or acquire custom-written software from developers.

All e-businesses incur software implementation and integration costs to place their systems online. SOP 98-1, *Accounting for the Costs of Computer Software Developed or Obtained for Internal Use*, defines accounting for software costs and requires—

- Expensing preliminary project stage costs as incurred.
- Capitalizing application development stage costs.
- Expensing post-implementation or operation stage costs as incurred.

SOP 98-1 also provides definitions of the different types of costs for each stage as well as guidelines regarding when to recognize and how to measure impairment. Also see the related discussion of Web site development costs and EITF 00-2 guidelines for such costs in the “SEC Accounting Issues Related to Internet Operations” section of this Alert.

### **Goodwill and Intangible Assets**

E-businesses are often combinations that result from mergers and acquisitions, as discussed earlier in the “Corporate Restructuring” section of this Alert. Recognition of goodwill and other intangible assets usually occurs when using purchase accounting to account for the combination when the price paid is greater than the fair value of identifiable assets acquired. This is often the case when the sought-after assets of the acquiree are off-balance sheet items, such as the management team, customer base, proprietary software, or intangible intellectual property. According to paragraphs 1, 28, and 29 of APB Opinion 17, *Intangible Assets*:

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The excess of the cost of an acquired company over the sum of the identifiable net assets, usually called goodwill, is the most common unidentifiable intangible asset.

The cost of each type of intangible asset should be amortized on the basis of the estimated life of that specific asset and should not be written off in the period of acquisition.

The period of amortization should not, however, exceed forty years.

Since goodwill is not specifically identifiable, and because the amount recognized as goodwill can be substantial, Internet companies have the opportunity to dampen the effect of related goodwill amortization by writing it off over the maximum allowable period.

Auditors should question the use of the maximum amortization period. If the basis of goodwill is the value of the management team, customer base, or proprietary software, isn't the useful life of these assets substantially less than the maximum? How long do Internet managers stay with one company? How sticky—that is, loyal—are customers that are only one click away from competitors? In addition, what about custom software that is most likely obsolete within two years? How quickly is the value of intangible intellectual property eroded by the rapid pace of technological innovation? Auditors should consider these questions as they relate to client e-businesses with goodwill and intangible assets.

### **Research and Development Costs**

The Internet industry is still in its infancy. Often, the basis of an e-business' competitive strategy rests on an idea that is still in the conceptual stage. No commercial software process may exist to implement the strategy. Therefore, many e-businesses undertake the research and development activities themselves.

Ongoing innovation is the heart of competition in e-business and is required for survival. Consequently, most e-businesses devote a substantial portion of their resources to research and develop-

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ment (R&D) activity. According to paragraphs 8a and 8b of FASB Statement No. 2, *Accounting for Research and Development Costs*:

Research is planned search or critical investigation aimed at discovery of new knowledge with the hope that such knowledge will be useful in developing a new product or service.

Development is the translation of research findings or other knowledge into a plan or design for a new product or process...whether intended for sale or use.

E-business management may reduce net loss or increase earnings by capitalizing R&D costs, which are significant for many companies involved in e-business. However, FASB Statement No. 2, as interpreted by FASB Interpretation No. 4, *Applicability of FASB Statement No. 2 to Business Combinations Accounted for by the Purchase Method*, prohibits capitalization and requires R&D to be expensed when incurred, except for acquired R&D with alternative future uses purchased from others. In addition to the requirement to expense internal R&D, FASB Statement No. 2 requires disclosure in the financial statements regarding the total amount of research and development costs charged to expense.

Some e-businesses acquire their assets through mergers and acquisitions. One purpose of these business combinations is to acquire in-process e-business R&D. The auditor of an e-business combination may need to hire a technology specialist to determine which acquired technology objects have alternative future uses. If they have alternative future uses, the auditor should verify that they are properly valued and capitalized.

### **Contingency Losses**

Many e-businesses conduct retail transactions over the Internet with consumers. These transactions lead to contingent losses for sales returns, allowances, and credit card chargebacks. According to paragraph 8 of FASB Statement No. 5, *Accounting for Contingencies*, an estimated loss from contingency shall be accrued by a charge to income if both of the following conditions are met:

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1. Information available prior to issuance of the financial statements indicates that it is probable that an asset had been impaired or a liability had been incurred at the date of the financial statements. It is implicit in this condition that it must be probable that one or more future events will occur confirming the fact of the loss.
  2. The amount of the loss can be reasonably estimated.

Many e-businesses are experiencing credit card fraud committed by consumers. For example, customers sometimes charge for merchandise, hold onto the merchandise they receive, and then repudiate the transaction by disputing the transaction with the credit card company. Since e-business merchants do not obtain customer signatures at the time of online credit card orders, they have no proof that the customer authorized the charge. If cardholders choose to dispute charges, the merchant is usually charged back for the sale; that is, the liability from the credit card company to the merchant is reduced by the amount of the disputed charge. (See the previous section of this Alert, "Electronic Signatures," for related recent information about electronic signatures.)

Recent statistics from First Data Corporation, the largest credit card processor in the United States, report chargebacks for Internet companies at 1.25 percent of all Internet transactions. Catalogue transactions typically experience chargebacks of about .33 percent, and traditional storefront operations typically experience .14 percent chargeback rates.<sup>10</sup> These statistics support the rationale for recording higher loss contingencies for Internet sales than for sales made through other channels.

Auditors of e-businesses should ensure that clients conducting online retail sales accrue an adequate loss contingency for sales returns, allowances, and credit card chargebacks, or that they make adequate disclosure that they cannot reasonably estimate the amount of loss.

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10. "Credit-Card Scams Bedevil E-Stores," the Wall Street Journal (September 19, 2000).

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Usually, estimates of anticipated losses are based on the normal experience of the business and its transaction history. For most e-businesses, however, there is not enough transaction history to reasonably estimate these amounts. In that case, according to paragraph 10 of FASB Statement No. 5:

If no accrual is made for a loss contingency because one or both of the conditions in paragraph 8 [see extract above] are not met...disclosure of the contingency shall be made when there is at least a reasonable possibility that a loss...may have been incurred. The disclosure shall indicate the nature of the contingency and shall give an estimate of the possible loss or range of loss or state that such an estimate cannot be made.

### **Start-Up Activity Costs**

Starting in 1998, the amount of investment in new e-businesses began to increase at an exponential rate. Interest in Internet companies became so great that investment in them accounted for 85 percent of total venture capital for the first half of 2000. This investment is more than the amount that was invested in the sector in all of 1999. As a result of the recent pace of e-business investment, auditors should take time to understand how to apply the provisions of SOP 98-5, *Reporting on the Costs of Start-Up Activities* for their clients. In addition, auditors might want to review the provisions of FASB Statement No. 7, *Accounting and Reporting by Development Stage Enterprises*, that might be helpful. Paragraph 5 of SOP 98-5 defines start-up activities as:

those one-time activities related to opening a new facility, introducing a new product or service, conducting business in a new territory, conducting business with a new class of customer or beneficiary, initiating a new process in an existing facility, or commencing some new operation. Start-up activities include activities related to organizing a new entity (commonly referred to as organization costs).

Certain costs that ongoing enterprises would be able to capitalize under GAAP, such as acquiring or constructing long-lived assets and getting them ready for their intended uses, acquiring or producing inventory, and acquiring intangible assets, are not subject



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to SOP 98-5. Costs of start-up activities, including organization costs, should be expensed as incurred.

FASB Statement No. 7, *Accounting and Reporting by Development Stage Enterprise*, defines a development stage enterprise as one that is devoting substantially all of its efforts to establishing a new business, whose principal operations have not commenced, or for which there is no significant revenues. In addition, a development stage enterprise typically will devote most of its activities to acquiring or developing operating assets, recruiting and training personnel, and developing markets, as well as other activities. Clearly, FASB Statement No. 7 applies to most new e-businesses since they typically are involved in the activities described by the Statement. According to paragraph 10 of FASB Statement No. 7:

Financial statements issued by a development stage enterprise shall present financial position and results of operations in conformity with the generally accepted accounting principles that apply to established operating enterprises.

Furthermore, FASB Statement No. 7 requires additional balance sheet disclosures. These disclosures include cumulative net losses, with special descriptive captions, income statement disclosure of cumulative revenue and expenses, and a statement of stockholder equity showing each issuance of equity securities, including dollar amounts, dollar amounts assigned for noncash consideration, the nature of noncash consideration, and the basis for assigning amounts.

FASB Statement No. 7's applicability is especially important for new e-businesses that might be tempted to play by their own rules and pick and choose between what to report and disclose. Public development stage companies are subject to article 5A of SEC regulation SX, which requires separate statements of assets and unrecovered promotional and development costs. Rule 12-06a of regulation SX allows the offset of certain proceeds and other income against promotional and development costs.

#### **Footnote Disclosures**

Under current GAAP, there are no special reporting or disclosure requirements for pure-play e-businesses. On the other hand,

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SEC reporting companies with multiple operating segments are required to report and disclose financial and descriptive information about reportable operating segments. According to paragraphs 3 and 4 of FASB Statement No. 131, *Disclosures about Segments of an Enterprise and Related Information*:

The objective of requiring disclosures about segments of an enterprise and related information is to provide information about the different types of business activities...and the different economic environments...to help users of financial statements better understand the enterprise's performance, better assess its prospects for future net cash flows, and make more informed judgments about the enterprise as a whole.

The method the Board chose for determining what information to report is referred to as the management approach...[which is] based on the way that management organizes the segments within the enterprise for making operating decisions and assessing performance.

Information about e-business activities of public companies is important and valuable information to investors. Reliable financial information about the nature of a company's e-business activities is crucial to assessing that company's future prospects. E-business activities may meet the guidelines required for a reportable segment, according to paragraphs 10 and 18 of FASB Statement No. 131, when—

- The segment engages in activities from which it may earn revenue and incur expenses.
- The enterprise's chief operating decision-maker regularly reviews its operating results.
- There is discrete financial information available.
- The segment's reported revenue to both external customers and intersegment sales is 10 percent or more of combined revenue of all operating segments.
- The absolute amount of reported profit or loss is 10 percent or more of the combined operating profit or loss.

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- Its assets are 10 percent or more of the combined assets of all operating segments.

FASB Statement No. 131 is not intended to discourage the disclosure of additional information about an e-business. Audited information disclosed in the notes to the financial statements that investors may use to value Internet companies, such as Web site traffic, growth in customer base, customer retention ratios, and employee turnover, could help dampen stock market volatility by improving the quality of information available to investors. The SEC has indicated that its staff will focus on the proper application of FASB Statement No. 131. (See the next section of this Alert, “SEC Accounting Issues Related to Internet Operations.”)

### **Asset Impairment**

Many business leaders recognize the importance of the Internet to their companies. *Blown to Bits* by Evans and Wurster (Harvard University Press, 2000) describes how economics of information will result in the deconstruction of entire industries. They explain that entrenched industry incumbents face significant loss of market share if they fail to grasp how the reach and richness of the Internet destroy their competitive advantage.

Moving sales and distribution networks to the Internet displaces existing channels, deconstructs industries and companies, and causes assets to lose significant value. For example, e-business can threaten branch office operations, travel agencies, bookstores, stockbrokers, insurance agents, music distributors, automobile dealerships, and newspaper classified advertising departments. Where does the auditor come into play in all of this? Auditors of businesses subject to deconstruction by the Internet need to consider whether management has appropriately accounted for asset values that have been impaired. According to paragraph 4 of FASB Statement No. 121, *Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to Be Disposed Of*.

An entity shall review long-lived assets and certain identifiable intangibles to be held and used for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable.

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One example that paragraphs 6 and 7 of FASB Statement No. 121 provide to determine if it is necessary to assess the recoverability of an asset is a significant adverse change in the business climate. The Statement indicates:

If the sum of the expected future cash flows (undiscounted and without interest charges) is less than the carrying amount of the asset, the entity shall recognize an impairment loss.

The impairment loss...[is] measured as the amount by which the carrying amount of the asset exceeds the fair value of the asset.

Some assets, particularly legacy software and hardware systems, or even relatively recently installed enterprise resource planning, network operating, and software systems, have been rendered obsolete by changing technology and may have fair values significantly less than book value. Even in these circumstances, it is necessary to determine the undiscounted cash flows to confirm the impairment.

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### **Executive Summary—Accounting Issues Affecting E-Business**

- There are two permissible alternative accounting treatments for employee stock options, APB Opinion 25, *Accounting for Stock Issued to Employees*, which uses the intrinsic value method, and FASB Statement No. 123, *Accounting for Stock-Based Compensation*, which uses the fair value method.
  - Customer solicitation and software development costs are key e-businesses costs that present cost recognition issues. Currently, there is diversity in accounting for these costs by Internet companies—they could either capitalize or expense the costs—making it difficult to compare their financial statements.
  - Statistics support the rationale for recording higher loss contingencies for Internet sales than for sales made through other channels.
  - Auditors of businesses subject to deconstruction by the Internet need to consider whether management has appropriately accounted for asset values that have been impaired.
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## **SEC Accounting Issues Related to Internet Operations**

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### *What SEC issues related to the Internet are important to auditors?*

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In October 1999, the chief accountant of the SEC sent a list of Internet accounting issues to the FASB's EITF that the SEC staff believes warrant consideration by the EITF or another standard-setting body.

As a general rule, the SEC staff believes that Internet companies engaging in transactions that are similar to transactions entered into by traditional companies should follow the already established accounting models for those transactions.

Here we discuss a few of the SEC accounting issues described in the letter, including those related to shipping and handling costs, Web site development costs, revenue recognition issues and advertising barter transactions.

### **Shipping and Handling Costs**

Shipping and handling costs are a major expense for Internet product sellers. Most sellers charge customers for shipping and handling in amounts that are not a direct pass-through of costs. Most Internet companies do not separately disclose, either in the financial statements or the footnotes, the amount of shipping and handling costs incurred. In addition, the companies typically include shipping and handling in operating expenses rather than as part of cost of goods sold.

Placing shipping and handling costs in operating expenses reduces cost of goods sold and increases operating margins upon which the valuation of many money-losing e-businesses are based. For example, Dow Jones reported on July 20, 2000, that including shipping and handling in cost of goods sold would reduce Amazon.com's gross profit margin from 22.3 percent to 8.6 percent and Etoys' from 21 percent to - 5.4 percent. Although presenting shipping and handling in operating expense, rather than cost of goods of sold, has no effect on net income overall, the treatment that results in lower operating margins could adversely affect the refinancing efforts of cash-hungry dot-coms.

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Initially, the FASB's EITF, when discussing EITF Issue No. 00-10, *Accounting for Shipping and Handling Fees and Costs*, determined that shipping and handling should be included in cost of goods sold. At its September 20-21, 2000, meeting, the group reached a consensus that the classification of shipping and handling costs is an accounting policy decision that should be disclosed pursuant to APB Opinion 22. A company may adopt a policy of including shipping and handling costs in cost of sales. If such costs are significant and are not included in cost of sales (that is, if those costs are accounted for together or separately on other income statement line items), a company should disclose both the amount and line item(s) on the income statement.

### **Web Site Development Costs**

The cost of developing a Web site is a "priority 1" Internet issue identified in the SEC's letter. The letter states that Web site development costs are one of the largest costs for an Internet business. The SEC staff believes a large portion of Web site development costs should be accounted for according to SOP 98-1 as software developed for internal use.

EITF Issue No. 00-2, *Accounting for WebSite Development Costs*, indicates that companies are incurring significant costs to develop Internet Web sites and that diversity in practice exists in accounting for Web site development costs. Some entities capitalize such costs, others expense Web site development costs, and still others capitalize some of the costs and expense the rest.

The EITF reached consensus that all costs incurred (1) in the planning stage of Web site development should be expensed as incurred, (2) in Web site application and infrastructure development stage relating to software used to operate a Web site and initial graphics should be accounted for under SOP 98-1, unless certain circumstances exist, (3) for Web site hosting generally would be expensed over the period of benefit, (4) to develop content will be addressed as a separate EITF issue, and (5) in the operating stage should be treated as the costs of other operations, or expensed as incurred, unless the costs add functionality. In that

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case, such costs should be expensed or capitalized based on SOP 98-1.

**Help Desk**—As of the date of this publication, the final status of most of the SEC's Internet accounting issues is yet to be determined. Auditors of e-businesses faced with these issues are advised to consult [www.sec.gov](http://www.sec.gov) and [www.fasb.org](http://www.fasb.org) to determine the current status of these issues.

## **Revenue Recognition**

As with any new business model, there are issues regarding revenue recognition for Internet activities. On December 3, 1999, the SEC staff issued Staff Accounting Bulletin (SAB) No. 101, *Revenue Recognition in Financial Statements*. This SAB summarizes certain of the staff's views in applying GAAP to revenue recognition in financial statements. The staff provided this guidance due, in part, to the large number of revenue recognition issues that registrants encounter. SAB No. 101 emphasizes that revenue should not be recognized until it is realized or realizable and earned. The staff believes that revenue generally is realized or realizable and earned when all of the following criteria are met.

- Persuasive evidence of an arrangement exists.
- Delivery has occurred or services have been rendered.
- The seller's price to the buyer is fixed or determinable.
- Collectibility is reasonably assured.

Note that EITF Topic D-85 provides guidance on the application of certain transition provisions in SAB No. 101.

You can obtain SAB No. 101 from the SEC Web site at [www.sec.gov/rules/acctreps/sab101.htm](http://www.sec.gov/rules/acctreps/sab101.htm).

Since the issuance of SAB No. 101, the SEC received requests from a number of groups asking for additional time to study the guidance. In response, on March 24, 2000, the SEC issued SAB No. 101A, which delayed the implementation date of SAB No. 101 for registrants with fiscal years that begin between December 16, 1999, and March 15, 2000. Subsequently, the SEC staff is-

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sued SAB No. 101B on June 26, 2000, which delays the implementation date of SAB No.101 until no later than the fourth fiscal quarter of fiscal years beginning after December 15, 1999.

*Frequently Asked Questions.* In October 2000, in response to questions that had been received from registrants, public accountants, and others, the SEC staff issued responses to frequently asked questions regarding accounting standards related to revenue recognition and SAB No. 101. The responses to frequently asked questions were developed with the assistance of working groups from accounting firms and industry. The responses to frequently asked questions are available on the SEC Web site at [www.sec.gov/offices/account/sab101fq.htm](http://www.sec.gov/offices/account/sab101fq.htm).

### **Gross Versus Net**

Often an e-business provides a link on its Web site to other sites that process credit card information, take orders, provide fulfillment, and handle customer service. Involvement with third parties makes it difficult to determine the party actually making the sale and whether to record grossed-up revenues and cost of sales or to report the net profit as revenues, similar to a commission.

Many Internet companies are valued by a multiple of revenues. The e-business that originates a transaction may receive only a fee or a percentage of the transaction. E-businesses management might have the incentive to book these transactions as gross sales since their companies' value often may be based on the sales growth. According to SAB No. 101, to determine whether revenues should be recognized as gross or net, auditors should answer the following questions:

- Which party in the transaction is the principal?
- Who is taking title to the property?
- Who bears the risk for credit card repudiations and returns?
- Is there an agent-broker relationship?



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If the e-business is an agent or broker and does not assume the risk of holding title to the product, the revenue should be recognized as net.

You may also want to familiarize yourself with the guidance contained in EITF Issue No. 99-19, *Reporting Revenues Gross as a Principal vs. Net as an Agent*.

### **Advertising Barter Transactions**

E-businesses often enter into barter transactions in which they agree to place advertisements on each other's Web sites. Accounting for advertising barter transactions is controversial due to the difficulty of reliable measurement for these services, in addition to much recent media attention on this topic. For example, in January 2000 Amazon.com entered into a complicated exchange of \$30 million in borrowed money for Drugstore.com stock and a payment over three years by Drugstore of \$105 million for a tab on Amazon.com's home page.

EITF Issue No. 99-17, *Accounting for Advertising Barter Transactions*, addresses the issue of whether barter transactions involving a nonmonetary exchange of advertising should result in recorded revenues and expenses at the fair value of the advertising surrendered or received or at book value. The consensus of the task force is that revenue and expense should be recognized at fair value only if the fair value of the advertising is determinable. In addition, entities should disclose the amount of revenue and expense recognized from advertising barter transactions for each income statement period presented.

## **E-Business Self-Defense**

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*What steps can auditors encourage their e-business clients to take to prevent unwanted intruders on Web sites, and how can their clients prepare their Web sites and business systems for the challenges of security and privacy, among other issues?*

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Down time costs to e-businesses due to e-sabotage are high on the lists of things to avoid in order to prosper. User concerns about Web site security and privacy—a common complaint that

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we read much about in the news these days—result in high costs for e-business. And the issue of potential fraud is never far away in the e-business world.

Companies can be vulnerable in today's marketplace unless they can attain scale, provide good service, and react with speed, keeping costs down as they go, according to Forrester Research. We add another item to the three elements mentioned: trust. Unless e-business can create an environment of trust surrounding transactions in the e-world, entities will be at risk for long-term survival. Here are some helpful offerings to consider recommending to your e-business clients who face these sometimes formidable challenges.

### **Best Practices for E-Commerce Self-Defense<sup>11</sup>**

Here's a list of items you can consider using and sharing with your e-business clients. The list provides ten ways to keep unwanted intruders out of the Web site.

1. *Conduct a risk assessment of the enterprise.* If possible, do it before implementing technical controls so that weaknesses can be eliminated before costly adjustments are needed.
2. *Develop security standards.* Communicate security policy to employees so they understand their responsibilities, the penalties for violations, and what to do if they suspect on-line security has been breached.
3. *Test defenses.* Conduct a full systems audit, testing security—especially firewalls—to identify potential weak points, including remote access to systems by e-mail, the Internet, and telephone.
4. *Get an independent opinion on security measures.* Have an objective outsider evaluate overall online security, including firewalls, antivirus software, and risk analysis tools.

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11. *Journal of Accountancy* (April 2000).

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5. *Limit access to e-commerce controls.* Give access to the fewest people and the fewest systems possible for the minimum time it takes to perform essential functions. Use authentication tools, such as passwords, smart cards, and digital certificates to verify identities online.
  6. *Use firewalls to block intrusions.* Pass transmissions through a control point where they can be checked for compliance with security provisions.
  7. *Monitor employees' online activity.* Use systems management tools to enforce security policies consistently across multiple online environments and to automate user access. Use e-mail analysis tools to intercept and scan e-mail for possible security violations.
  8. *Monitor networks for unusual activity.* Determine whether installing additional security measures or systems resources, such as random access memory (RAM), would reduce the impact of a hacker attack. Also, use intruder detection software to maintain overall awareness of possible threats to systems—for example, surreptitious large-scale incursions during diversionary attacks.
  9. *Consult the Internet service provider.* Determine whether it can block attacks before they reach company systems.
  10. *Inform the proper authorities when systems are violated.* Stress the importance of preserving system activity logs, which may help identify intruders.

WebTrust and SysTrust, two AICPA assurance services described next, can help address many of the issues included in the list above.

## **Beyond the Audit**

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*What relevant assurance services can I offer my clients that extend beyond the audit?*

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Practitioners now have an opportunity to broaden their traditional service offerings by considering an emerging practice area

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called assurance services. The AICPA, in conjunction with the Canadian Institute of Chartered Accountants (CICA), has developed WebTrust<sup>SM</sup> and SysTrust<sup>SM</sup> assurance services. Assurance service engagements allow practitioners to build on their reputation for independence, objectivity, and integrity to provide assurance that an entity is complying with an established set of principles and criteria.

### **WebTrust Assurance Service**

The topic of privacy and security on the Internet is often in the news these days. The benefits of worldwide commerce at the click of a mouse are sometimes offset by the lack of security and privacy that users might experience when using this worldwide marketplace. We read again and again about everything from Internet businesses selling or sharing private customer information to consumer fraud. Internet users and the businesses that service them have a right to be very concerned about the integrity of the businesses they're dealing with on the Internet.

Concerns about such Internet issues as security and privacy, among others, are growing, especially as the amount of e-business conducted continues to develop at such a rapid pace. There is a service that you can offer your clients who conduct or participate in e-commerce on the Web that can help allay their fears and those of their customers.

Practitioners of WebTrust engagements provide assurance for business-to-business, business-to-customer, and service provider clients that a business entity conducting e-commerce is in compliance with stated principles and criteria. The CPA offers a solution by selecting the most relevant principles for the client entity from among the following: business practices, security, privacy, confidentiality, nonrepudiation, or availability. The CPA follows certain WebTrust licensing engagement requirements in addition to professional standards, then conducts the WebTrust engagement and issues a report and certification that the site is in compliance with the selected stated principles and criteria.

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In addition to the WebTrust program for companies conducting e-business with consumers, the AICPA and CICA most recently developed the WebTrust On-Line Privacy Program. This program was developed to allay consumer fears related to privacy and to provide companies with a way to lower risk in the marketplace. The privacy program—

- Is based on the most comprehensive standards for conducting online commerce, including protecting personally identifiable information.
- Encompasses all key facets of online privacy.
- Complies with significant U.S. and international privacy guidelines, regulations, and recommendations.

Other WebTrust programs also include WebTrust Principles and Criteria for Certification Authorities (who verify the link between the party conducting an e-business transaction and that party's identification means).

**Help Desk**—For more detailed information on WebTrust and its certification programs, go to the AICPA WebTrust Web site at [www.webtrust.org](http://www.webtrust.org).

## **SysTrust Assurance Service**

The SysTrust assurance engagement provides you with the opportunity to offer your clients a valuable service that goes well beyond the work conducted in the traditional audit. If a client requires an evaluation of the effectiveness of controls enabling its information systems to function reliably, a SysTrust engagement can provide the information. In a SysTrust engagement, the CPA evaluates a system against relevant and reliable SysTrust principles and criteria and determines whether controls over the system exist.

The principles and criteria include (1) four broad principles identifying parameters and attributes of a reliable system and (2) criteria underlying the principles that establish the specific control objectives a system must meet to be considered reliable. The prin-

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principles address the concerns of availability, security, integrity, and maintainability. Then, the CPA tests the system to determine whether the controls were operating effectively during a specified period and issues a report attesting to the effectiveness of controls over the principles. If a client is concerned only about the effectiveness of the controls over one principle, such as availability, the CPA can issue a report on one principle or a combination of principles.

**Help Desk**—For more information on SysTrust, visit the Web site for SysTrust at [www.aicpa.org/assurance/systrust/index.htm](http://www.aicpa.org/assurance/systrust/index.htm).

## **New Auditing and Accounting Pronouncements**

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*What new auditing and accounting pronouncements were issued this year?*  
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## **Recent Auditing and Attestation Standards Issued**

The following table lists the new auditing and attestation standards issued during the past year. Please refer to the actual standards on the AICPA's Web site (see the Appendix) for more complete information on these and other pending standards.

### *Statements on Auditing Standards*

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SAS No. 93	<i>Omnibus Statement on Auditing Standards—2000</i> (AICPA, <i>Professional Standards</i> , vol. 1, AU secs. 315, 508, and 622)
SAS No. 92	<i>Auditing Derivative Instruments, Hedging Activities, and Investments in Securities</i> (AICPA, <i>Professional Standards</i> , vol. 1, AU sec. 391)
SAS No. 91	<i>Federal GAAP Hierarchy</i> (AICPA, <i>Professional Standards</i> , vol. 1, AU sec. 411)
SAS No. 90	<i>Audit Committee Communications</i> (AICPA, <i>Professional Standards</i> , vol. 1, AU secs. 380 and 722)
SAS No. 89	<i>Audit Adjustments</i> (AICPA, <i>Professional Standards</i> , vol. 1, AU secs. 310, 333, and 380)
SAS No. 88	<i>Service Organizations and Reporting on Consistency</i> (AICPA, <i>Professional Standards</i> , vol. 1, AU secs. 324 and 420)

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## Statements on Standards for Attestation Engagements

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SSAE No. 10      *Attestation Standards: Revision and Recodification* (available January 2001)

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### Recent GAAP Pronouncements

In addition to the pronouncements and other issues described previously in this Alert that affect e-business entities, we include other recent pronouncements here for your consideration. Included are pronouncements from the FASB and the AICPA Accounting Standards Executive Committee (AcSEC). Please refer to the actual pronouncements on the FASB and AICPA Web sites (see Appendix) for more details and for pending pronouncements.

#### *FASB Pronouncements*

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- Statement No. 140      *Accounting for Transfers and Servicing of Financial Assets and Extinguishments of Liabilities*—This Statement replaces FASB Statement No. 125 and revises the standards for accounting for securitizations and other transfers of financial assets and collateral and requires certain disclosures, but carries over most of the provisions of Statement No. 125.
- Statement No. 140 is effective for transfers and servicing of financial assets and extinguishments of liabilities occurring after March 31, 2001; for recognition and reclassification of collateral and for disclosures relating to securitization transactions and collateral for fiscal years ending after December 15, 2000. There is no reporting requirement for disclosures about securitization and collateral accepted for periods ending on or before December 15, 2000, for which financial statements are presented for comparative purposes.
- Statement No. 139      *Rescission of FASB Statement No. 53 and Amendments to FASB Statements No. 63, 89, and 121*—FASB Statement No. 139 rescinds FASB Statement No. 53, *Financial Reporting by Producers and Distributors of Motion Picture Films*. An entity that previously was subject to the requirements of Statement No. 53 shall follow the guidance in AICPA SOP 00-2, *Accounting by Producers or Distributors of Films*. This Statement also amends FASB Statements No. 63, *Financial Reporting by Broadcasters*, No. 89, *Financial Reporting and Changing Prices*, and No. 121, *Accounting for the Impairment*

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*of Long-Lived Assets and for Long-Lived Assets to Be Disposed Of.*

Statement No. 139 is effective for financial statements for fiscal years beginning after December 15, 2000. Earlier application is permitted only upon early adoption of the SOP.

Statement No. 138

*Accounting for Certain Derivative Instruments and Certain Hedging Activities*—FASB Statement No. 138 addresses a limited number of issues causing implementation difficulties for numerous entities that apply FASB Statement No. 133, *Accounting for Derivative Instruments and Hedging Activities*. This Statement amends the accounting and reporting standards of FASB Statement No. 133 for certain derivative instruments and certain hedging activities.

This Statement is effective, for an entity that has not adopted Statement No. 133 before June 15, 2000, concurrently with Statement No. 133 according to the provisions of paragraph 48 of Statement No. 133. For an entity that has adopted Statement No. 133 prior to June 15, 2000, this Statement is effective for all fiscal quarters beginning after June 15, 2000, in accordance with certain transition provisions.

FASB Interpretation  
No. 44

*Accounting for Certain Transactions Involving Stock Compensation*—Among other issues, Interpretation No. 44 clarifies (1) the definition of employee for purposes of applying APB Opinion 25, (2) the criteria for determining whether a plan qualifies as a noncompensatory plan, (3) the accounting consequences of various modifications to the terms of a previously fixed stock option or award, and (4) the accounting for an exchange of stock compensation awards in a business combination.

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### *AcSEC Statements of Position*

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SOP 00-1

*Auditing Health Care Third-Party Revenues and Related Receivables*

SOP 00-2

*Accounting by Producers or Distributors of Films*

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For updates on any additional pronouncements, see the AICPA general *Audit Risk Alert—2000/01* (Product No. 022260kk).



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## Resource Central

### On the Bookshelf

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*What other AICPA publications may be valuable to my practice?*

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#### AICPA Audit and Accounting Guides

Audit and Accounting Guides summarize the practices applicable to specific industries and describe relevant matters, conditions, and procedures unique to these industries. The accounting guidance included in AICPA Audit and Accounting Guides is in the GAAP hierarchy as authoritative GAAP. This selection of Guides are updated for authoritative pronouncements through May 1, 2000 (unless otherwise indicated) and are available from the AICPA for the following industries (product numbers are shown in parentheses):

- *Airlines* (013184kk)
- *Banks and Savings Institutions* (011179kk)
- *Brokers and Dealers in Securities* (012182kk)
- *Casinos* (013151kk)
- *Construction Contractors* (012097kk)
- *Credit Unions* (012061kk)
- *Finance Companies* (012467kk)
- *Health Care Organizations* (012441kk)
- NEW AUDIT AND ACCOUNTING GUIDE! *Investment Companies* (012364kk)
- NEW AUDIT AND ACCOUNTING GUIDE! *Life and Health Insurance Companies* (012500kk)
- *Property and Liability Insurance Companies* (011923kk)

The following general Audit Guides also may be of interest to CPAs performing audit and attest engagements:

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- *Consideration of Internal Control in a Financial Statement Audit* (012451kk)
  - *Personal Financial Statements* (011136kk)
  - *Prospective Financial Information* (011179kk)
  - *Use of Real Estate Appraisal Information* (013159kk)
  - **NEW AUDIT GUIDE!** *Auditing Derivative Instruments, Hedging Activities and Investments in Securities*—Practical Guidance for Applying SAS No. 92 (012520kk) (Estimated availability date — March 2001)

### **AICPA Industry Audit Risk Alerts**

The annual industry Audit Risk Alerts series provides information about current economic, regulatory, and professional developments in specified industries and practice areas. The Alerts assist CPAs in planning and performing audit engagements. The selection of 2000/01 Audit Risk Alerts presented here are available from the AICPA for the following industries (product numbers are shown in parentheses):

- *Auto Dealerships* (022254kk)
- *Construction Contractors* (022256kk)
- *Lending and Depository Institutions* (022257kk)
- *Health Care* (022258kk)
- *High Technology* (022259kk)
- *Insurance* (022262kk)
- *Investment Companies* (022263kk)
- *Real Estate* (022264kk)
- *Retail Enterprises* (022265kk)
- *Securities* (022266kk)

This year's new additions to the Alert series include—

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- *The ABCs of Independence* (022271kk). This Alert is a must-read basic primer on the fundamentals of independence. Whether you're unfamiliar with the standards or need a user-friendly refresher course, this Alert is for you.
  - *SEC Registrants* (022272kk). This Alert provides valuable insights into SEC staff perspectives on numerous accounting and disclosure issues. The Alert also includes updates on recent SEC activities.

### **Assurance Services Alerts**

The newly introduced Assurance Services Alert series provides practitioners with information about the emerging practice areas of CPA ElderCare Services, WebTrust, and CPA SysTrust. These Alerts provide both an introduction to those who are unfamiliar with assurance services and an update of important new developments for those who have expanded their practice to include these assurance services. The following Assurance Services Alerts are available from the AICPA:

- *WebTrust<sup>SM</sup>—2000* (022249kk)
- *CPA ElderCare Services—2000* (022248kk)
- *CPA SysTrust<sup>SM</sup>—2000* (022253kk)

### **AICPA Practice Aid Series**

The publications that constitute the AICPA Practice Aid Series have been designed to address a broad range of topics that affect today's CPA. From enhancing the efficiency of your practice to developing the new skill sets required for a successful transition to meet the challenges of the new millennium, this series provides practical guidance and information to help you make sense out of a changing and complex business environment. A selection from the series includes the following:

- *Preparing and Reporting on Cash- and Tax-Basis Financial Statements* (006701kk)
- *Considering Fraud in a Financial Statement Audit: Practical Guidance for Applying SAS No. 82* (008883kk)

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- *Auditing Estimates and Other Soft Accounting Information* (010010kk)
  - *Make Audits Pay: Leveraging the Audit Into Consulting Services* (006704kk)
  - *CPA ElderCare: A Practitioner's Resource Guide—NEW UPDATED EDITION!* (022504kk)
  - *Audits of Futures Commission Merchants, Introducing Brokers, and Commodity Pools* (006600kk)
  - *Financial Statement Presentation and Disclosure Practices for Not-for-Profit Organizations* (006605kk)
  - NEW PRACTICE AID! *CPA WebTrustSM Practitioners Guide* (006604kk)
  - NEW PRACTICE AID! *CPA Performance View Services* (00606kk)
  - NEW PRACTICE AID! *Auditing Multiemployer Plans* (006603kk)

### ***Accounting Trends and Techniques—2000***

*Accounting Trends and Techniques—2000* (009892kk) offers highlights of the latest trends in corporate financial statements, presented for practitioners in industry and public practice. The publication, which is based on a survey of over 600 public companies, illustrates accounting practices and trends, including presentations and disclosures.

### **Auditing Practice Releases**

Auditing Practice Releases provide auditors of financial statements with practical guidance on specific subject areas. These nonauthoritative publications help auditors understand complex issues they're most likely to encounter and suggest procedures to accomplish audit objectives.

- *Audit Implications of Electronic Data Interchange* (021060kk)

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- *The Information Technology Age: Evidential Matter in the Electronic Environment* (021068kk)
  - *Confirmation of Accounts Receivable* (021064kk)
  - *Audit Implications of Electronic Document Management* (021066kk)
  - *Service Organizations: Applying SAS No. 70* (021056kk)
  - *Analytical Procedures* (021069kk)
  - *Auditing in Common Computer Environments* (021059kk)
  - *Auditing with Computers* (021057kk)
  - *Consideration of the Internal Control Structure in a Computer Environment: A Case Study* (021055kk)
  - *Audits of Inventories* (021045kk)
  - *Audit Sampling* (021061kk)

### **AICPA—At Your Service**

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*How can I order AICPA products? What other AICPA services and products may be of interest to me?*  
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#### **Order Department (Member Satisfaction)**

To order AICPA products, call (888) 777-7077; write to the AICPA Order Department, CLA10, P.O. Box 2209, Jersey City, NJ 07303-2209; or fax (800) 362-5066. For best results, call Monday through Friday between 8:30 a.m. and 7:30 p.m. EST. You can obtain product information and place online orders at the AICPA's Web site, [www.aicpa.org](http://www.aicpa.org).

#### **Accounting and Auditing Technical Hotline**

The AICPA Technical Hotline answers members' inquiries about accounting, auditing, attestation, compilation, and review services. Call (888) 777-7077.

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### **Ethics Hotline**

Members of the AICPA's Professional Ethics Team answer inquiries concerning independence and other behavioral issues related to the application of the AICPA Code of Professional Conduct. Call (888) 777-7077.

### **Web Site**

The AICPA has a home page on the Web. AICPA Online ([www.aicpa.org](http://www.aicpa.org)) offers CPAs the unique opportunity to stay abreast of developments in accounting and auditing, including exposure drafts. The Web site includes *In Our Opinion*, the newsletter of the AICPA Audit and Attest Standards Team. The newsletter provides valuable and timely information on technical activities and developments in auditing and attestation standard setting.

### **New! Online Continuing Professional Education Offer!**

The AICPA has launched a new online learning tool, AICPA InfoBytes. An annual fee (\$95 for members and \$295 for nonmembers) provides unlimited access to over 1,000 hours of online continuing professional education (CPE) in one- and two-hour segments. Register today as our guest at [infobytes.aicpaservices.org](http://infobytes.aicpaservices.org).

### **CD-ROMs Available**

The AICPA is currently offering a CD-ROM product entitled *re-Source: AICPA's Accounting and Auditing Literature*. This CD-ROM enables subscription access to the following AICPA Professional Literature products in a Windows format: *Professional Standards*, *Technical Practice Aids*, and *Audit and Accounting Guides* (available for purchase as a set that includes all Guides and the related Audit Risk Alerts, or as individual publications). This dynamic product allows you to purchase the specific titles you need and includes hypertext links to references within and between all products. To order any publications included on the CD-ROM, call (888) 777-7077.

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AICPA also offers CPE through the CD-ROM *The Practitioner's Update* (Product No. 738110kk). Keep on top of the latest standards with this interactive, computer-based auditing and accounting update course. Issued twice a year, this cutting-edge course focuses primarily on new pronouncements that will become effective during the upcoming audit cycle.

Practitioners Publishing Company (PPC) and the AICPA are currently offering publications issued by PPC, the AICPA, and the FASB on one CD-ROM disk, entitled *The Practitioner's Library—Accounting and Auditing*. The FASB publications include *Original Pronouncements*, *Current Text*, *EITF Abstracts*, and *FASB Implementation Guides*; and the AICPA publications include *Professional Standards*, *Technical Practice Aids*, *Audit and Accounting Guides*, and *Peer Review Program Manual*. The disk also contains eighteen PPC engagement manuals. The disk may be customized so that purchasers pay for and receive only selected segments of the material. For more information about this product call (800) 323-8724.

### **AICPA Independence Publications**

- *CPE–Independence*, an interactive CD-ROM (Product No. 739035kk)
- *Plain English Guide to Independence* (downloadable free of charge from the AICPA's Professional Ethics home page at [www.aicpa.org/members/div/ethics/plaineng.htm](http://www.aicpa.org/members/div/ethics/plaineng.htm).)
- *Professional Standards*, ET section 101 (Product No. 005100kk)
- *The ABCs of Independence* (Product No. 022271kk), a new Audit Risk Alert on the fundamentals of independence.

The *E-Business Industry Developments* Audit Risk Alert will be published annually. As you encounter audit issues that you believe warrant discussion in next year's Alert, please feel free to share those with us. Any other comments that you have about the

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Audit Risk Alert would also be greatly appreciated. You may e-mail these comments to [lgivarz@aicpa.org](mailto:lgivarz@aicpa.org) or write to:

Leslye Givarz  
AICPA  
Harborside Financial Center  
201 Plaza Three  
Jersey City, NJ 07311-3881



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**APPENDIX*****The Internet—An Auditor's Research Tool***

Here are some Web sites that you may find useful to your practice:

<i>Name of Site</i>	<i>Content</i>	<i>Internet Address</i>
American Institute of CPAs	Summaries of recent auditing and other professional standards as well as other AICPA activities	<a href="http://www.aicpa.org">www.aicpa.org</a>
Financial Accounting Standards Board	Summaries of recent accounting pronouncements and other FASB activities	<a href="http://www.fasb.org">www.fasb.org</a>
Governmental Accounting Standards Board	Summaries of recent accounting pronouncements and other GASB activities	<a href="http://www.gasb.org">www.gasb.org</a>
Securities and Exchange Commission	SEC Digest and Statements, EDGAR database, current SEC rulemaking	<a href="http://www.sec.gov">www.sec.gov</a>
Independence Standards Board	Information on the activities of the Independence Standards Board	<a href="http://www.cpaindependence.org">www.cpaindependence.org</a>
FASAB	Federal Accounting Standards Board	<a href="http://www.financenet.gov/fasab.htm">www.financenet.gov/fasab.htm</a>
U.S. Federal Government Agencies Directory	A list of all federal agencies on the Internet	<a href="http://www.lib.lsu.edu/gov/fedgov.html">www.lib.lsu.edu/gov/fedgov.html</a>
The Electronic Accountant	World Wide Web magazine that features up-to-the-minute news for accountants	<a href="http://www.electronicaccountant.com">www.electronicaccountant.com</a>
CPAnet	Online community and resource center	<a href="http://www.cpalinks.com/">www.cpalinks.com/</a>

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Guide to WWW for Research and Auditing	Basic instructions on how to use the Web as an auditing research tool	<a href="http://www.tetranet.net/users/gaostl/guide.htm">www.tetranet.net/users/gaostl/guide.htm</a>
Accountant's Home Page	Resources for accountants and financial and business professionals	<a href="http://www.computercpa.com/">www.computercpa.com/</a>
U.S. Tax Code Online	A complete text of the U.S. Tax Code	<a href="http://www.fourmilab.ch/ustax/ustax.html">www.fourmilab.ch/ustax/ustax.html</a>
Federal Reserve Bank of New York	Key interest rates	<a href="http://www.ny.frb.org/pihome/statistics/dlyrates">www.ny.frb.org/pihome/statistics/dlyrates</a>
FirstGov	Portal through which all government agencies can be accessed.	<a href="http://www.firstgov.gov">www.firstgov.gov</a>
Economy.com	Source for analysis, data, forecasts, and information on the United States and world economies	<a href="http://www.economy.com">www.economy.com</a>
International Federation of Accountants	Information on standards-setting activities in the international arena	<a href="http://www.ifac.org">www.ifac.org</a>
Hoovers Online	Online information on various companies and industries	<a href="http://www.hoovers.com">www.hoovers.com</a>
Ask Jeeves	Search engine that utilizes a user-friendly question format and provides simultaneous search results from other search engines as well (for example, Excite, Yahoo, and AltaVista)	<a href="http://www.askjeeves.com">www.askjeeves.com</a>

