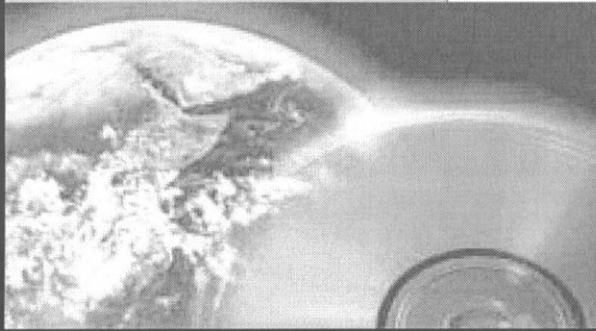University of Mississippi

eGrove

InfoTech Update, Volume 9, Number3, May/June 2001

American Institute of Certified Public Accountants. Information Technology Section

InfoTech Update

Information Technology for CPAs by CPAs

AMERICAN INSTITUTE OF CERTIFIED PUBLIC ACCOUNTANTS

AICPA

ELECTRONIC EVIDENCE

BYTES THAT BITE: THE DISCOVERY OF ELECTRONIC EVIDENCE

By Michael S. Kridel, CPA, CITP

Michael S. Kridel, CPA, CITP, is a partner with Daszkal Bolton Manela Devlin & Co. in Boca Raton, FL. He is responsible for the firm's litigation and consulting services practice, and serves as chief information officer. Kridel was a participant in the 2000 Top Ten Technologies Lab.

Cute title—ugly subject. Especially for defendants, chief information officers and information systems managers.

Electronic evidence, as both asset and liability, is one of the fastest developing legal frontiers. The courts, attorneys and their clients are facing a challenge that is both intellectual and technological, but ultimately, all too human. Electronic evidence may be an ultimate arena of the high-tech, high-touch paradigm first conceived by John Naisbitt in his seminal early 1980s work, *Megatrends*. While the high-tech part of this is obvious, the high-touch piece becomes clear: there will be one or more people who "touched" the evidence last and become the recipients for due process.

The challenge to the accounting profession lies in several areas: courts coming to grips with, and financing, new and rapidly changing technologies; "retooling" of the legal profession; education of both sides of the bench; and, finally litigants (current and prospective). The CPA who works in information systems and technology sits at the nexus of this challenge and mediates the information needs of the parties relative to their litigation. More importantly, this individual has the responsibility—and even the burden—of standing at the evidentiary gateposts as a high-tech sentinel.

Legal Terms and Applications

Above all, electronic evidence must be viewed as transformed paper documents; conservatism suggests it and the courts are beginning to demand this definition. Conversations with various Department of Justice representatives inevitably lead in this direction. Just as attorneys often send letters to a non-client, we, as information technology professionals, must govern ourselves accordingly.

Discovery, as a legal concept, is essentially what it sounds like: a court sanctioned process whereby attorneys and their clients are able to recover, review and use evidence in litigation. Basic to the discovery process is the assumption that, in addition to being unprivileged, the information must be likely to result in recovery of admissible evidence. Numerous Federal and state cases support this presumption. The Federal Rules of Civil Procedure

34 were amended as early as 1970 to include information system documents within Rule 26.

Many clients think their digitized corporate records will be sheltered because they are too expensive to produce; however, again, the courts tend to rule that this data must be provided regardless of hard and soft financial and personnel costs. The courts may, however, consider several elements when considering this production and who might bear the costs of compliance: the overall cost/benefit relationship of the production, availability and cost of producing the data through alternative sources, the hard costs of production, potential legal benefits for the respondent, and which party is better able to incur the costs of production.

Electronic evidence has clearly become an increasingly important source of evidence in every kind of litigation, including family law. The "best evidence rule," of Federal Rule of Evidence 1002, sets the threshold by stating "… [t]o prove the content of writing, recording, or photograph, the original writing, recording, or photograph is required, except as otherwise provided in these Rules or by Act of Congress." An initial reading of this Rule might lead us to minimize the impact of electronic evidence, but other Rules mitigate the rigidity of this Rule and lead to an enhanced understanding of how electronic evidence can meet this standard.

Federal Rule of Evidence 1001(1) includes magnetic, mechanical or electronic methods of recording information. Rule 1001(3) further provides that if data is stored electronically, "… any printout or other output readable by sight … is an 'original.'" The Rules go even further. Rule 1003 allows courts to admit duplicated electronic documents, "… unless (1) a genuine question is raised as to the authenticity of the original, or (2) in the circumstances it would be unfair to admit the duplicate in lieu of the original." Rule 1001(4) defines "duplicate" as "… a counterpart produced by the same impression as the original … or by other equivalent techniques.…" Finally, the primary means of attack arises from Rule 803(6), which addresses an exception to the hearsay for business records Rule. This Rule allows admissibility of documents, including a "… data compilation … ," if they meet requirements for contemporaneous creation and regular practice of that business.

Taken together, these rules provide enough latitude to allow admissibility of electronic evidence in nearly every form for every possible document. High-touch again: these rules will allow experts to speak out on the gathered evidence.

There is one legal concept that should be embedded in the subconscious of every information technology professional's mind: *spoliation*. Spoliation is defined as the destruction or significant alteration of evidence, or the failure to preserve property for another's use as evidence, in pending or future litigation. Our friends in the legal profession can parse those words, but it does not matter if this destruction or alteration was negligent or intentional because the court will ultimately decide, assuming the opposing party's position was compromised by this destruction, if it will penalize the evidence custodian for these actions. These penalties can take one or more of several forms: sanctions, issuance of a judgment, attorney fees or (perhaps worse) making a questionable impression on the court. A sound document retention policy, consistently applied, can be a party's best defense to an assertion of spoliation.

Examples of Evidence

So, what, then, are we seeking when we discover electronic evidence? It goes something like this (from the *Definitions* section of an actual Plaintiff's Request for Production): "'Document' or 'documents' means—regardless of the medium

Bytes that Bite: The Discovery of Electronic Evidence

on which it is produced, reproduced or stored—tapes, magnetic tapes, paper tapes, plotter output records, discs, data cards, films, data processing files and other computer readable records or programs and all other written, printed or recorded matter of any kind, and all other data compilations from which information can be obtained, and translated, if necessary, and all originals, drafts and copies thereof."

It does not require an attorney to explain how broad and far reaching this language is and the potential impact on a company receiving such a request or subpoena. This request is frequently preceded by a *preservation letter* that sets out certain guidelines and parameters for the recipient prior to litigation.

Given the immense number of examples of what electronic evidence could constitute, it more often falls within several general categories: data, electronic mail (email), offline storage, voice mail, applications (software), hardware, networks and peripherals.

Data

This is the generic and best-known form of electronic evidence. It also is the oldest, as measured by 21st Century timelines, and is everything we think it is, and more. Data files, however, may include items that we would not normally think of and which may not have corresponding hard copies. Examples include:

- Electronic Data Interchange (EDI) audit trails through value added networks (VAN);
- electronic calendars;
- corporate intranet postings;
- Web browser data, including cookies, site caches and site histories (including dates and times);
- newsgroup or bulletin board postings; and
- instant messages.

Document management systems, also known as application service providers (ASPs), present a whole new world in electronic evidence. There may no longer be hard copies of documents and these, including all revisions, may only be recoverable by electronic means. An important note: preservation letters, requests for production and subpoenas may need to be directed at the ASP as well as the litigant.

Electronic Mail

Email has improved the speed (if not the quality) of communication, but it also has enhanced many plaintiffs' cases because everyone has a tendency to be extremely cavalier in their writings by including thoughts in emails that they might not speak.
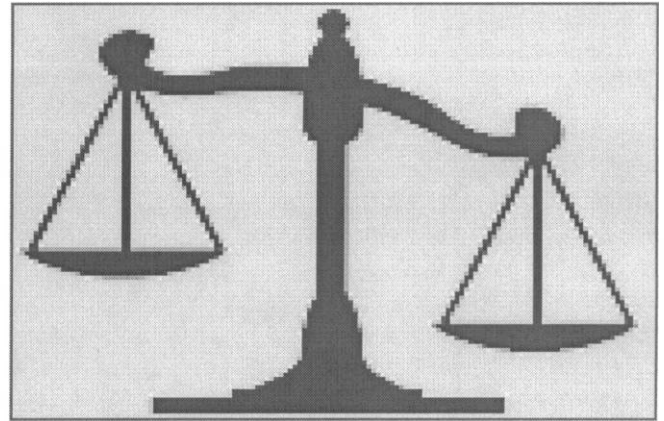
The problem is severe. Many companies have failed to establish meaningful and workable email policies that would effectively protect their email from discovery, and many more have created policies that are not enforced or, worse, enforced inconsistently. These failures are demonstrated by the increasing use of emails in trials and, perhaps more publicly, by multiple discharges from employment for violation of these policies. For example, in 2000, *The New York Times* discharged more than 20 employees in Virginia for recurring violations of email policy.

Worse yet, email is exceedingly hard to completely "kill" because it may continue to exist in multiple locations, even after it is "deleted." Clear examples of this include email that sits on servers, clients, ASPs, ISPs, scanners, backup media and even hard copies of email messages. And, this list is growing as technology advances. Email system administrators must strive to establish working email retention policies so that companies and their employees are protected.

Offline Storage

Offline storage is to the discovery process what an outlet mall is to a holiday season shopper. There are so many possible places to look that it is becoming difficult to impossible not to find something you want.

Traditionally, we think of offline storage as strictly electronic media, such as floppy disks, data tapes, ZIP disks, CD-ROMs and other removable media. Now, we have learned to include RAM, ROM, EPROM and PROM chips, as well as voice mail storage systems, in this definition. Offline storage also includes document hardcopies, and transactional logs or printouts.

ISPs should be considered for requests for production and subpoenas. Depending on the ISP's subscriber agreement and software, vital data may reside on the ISP's system and should be recovered.

Backups are, by far, the most dangerous form of recoverable media. Effective backup strategies, with built-in redundancies and rotating archives, may preserve damaging data that may not be "scrubbed" without destroying the media itself.

Voice Mail

Voice mail can resemble offline storage. It also is a unique form of electronic evidence because messages are stored in various forms, depending on the system. Some voice mail systems are entirely in-house, ASPs provide others and yet some are operated by telephone carriers themselves, as in "Call Notes." While substantially harder to retrieve than email, saved voice mail can be recreated and used in evidence.

Applications (Software)

Some applications will allow modification of an individual user's profile that can be used as evidence. An ideal example of this is the use of "rules" in email. The user creates rules that will automatically direct how certain messages will be handled. This may place messages in folders, both public and personal, that can be recovered later. Another example is word processing applications. A user may configure the application to make backups and store these in a subdirectory subject to recovery and not known to the company's system administrators.

Hardware

Hardware, in all its shapes, forms and flavors, presents an increasing problem because so much of it is designed for portability. In addition to chip storage, hardware encompasses the ubiquitous PDA and cellular telephone. These devices, most of which can synchronize an increasing amount of data with computers, networks and Web sites, are ideal targets for discovery because most users do not consider them part of a larger system. Additionally, many of these electronics are personally owned; a company's management may be unaware of how much, and what kind, of data is stored in these devices.

Networks

Networks, including local area networks (LANs), wide area networks (WANs), virtual private networks (VPNs) and storage area networks (SANs), are a new frontier in electronic storage. Increased usage of networks, especially platforms such as CIT-RIX, may allow workers to store data on non-company systems when they work remotely. These systems are difficult, if not impossible, to manage and present a tremendous vulnerability to the data security of a company.

Peripherals

Lastly, peripherals present opportunities for discovery. In addition, removable tape drives and printers have dynamic memory that can be mined if the timing allows. Telefax equipment may contain stored documents and transmission histories, including speed dial numbers.

Protecting Yourself

While understanding what constitutes electronic evidence is not difficult, managing it takes some effort. First, consult an experienced computer law attorney. Many larger firms can perform an electronic evidence discovery audit that will assist in assessing your vulnerabilities.

Second, create viable systems policies and procedures, if you have not already done so. "Viable" means a system that is simple to understand, monitor and enforce. These policies must extend to every point in the system, including servers, clients, networks, applications, users and peripherals. These standards must be clear, observable and measurable.

Last, prepare for electronic discovery by learning how the discovery process works. Prepare appropriate systems documentation that is consistent with the discovery process. This includes system profiles, backup and document retention policies, system access policies, and authentication policies.

Mark Twain said, "Everyone talks about the weather but no one does anything about it." Electronic evidence has, to a great extent, been treated similarly. Unfortunately, there are only two kinds of companies pertaining to the discovery of electronic evidence: those who have already been subject to discovery and those who will. The CPA's ability to understand these processes, and prepare accordingly, will contribute to you, your client's and employer's state of mind when faced with potential litigation. It will also help keep you dry when it rains.

Contact Mike Kridel at *mkridel@dbmdcpa.com*. ITU

THE DISCONNECTED PROFESSIONAL

By Richard Oppenheim, CPA, CITP

Richard Oppenheim, CPA, CITP, is president of SysTrust Services, a provider of products for the assessment, verification and certification of a computer data center's operational reliability. He has worked with computer technology, information systems and business operations for more than four decades.

With the start of the 21st Century, professionals need to examine how well they are connected. Examine your home, office, desk, briefcase, pockets — how many wires and cables do *you* have?

Your answer probably includes entertainment equipment such as the TV, VCR, DVD, cable box/satellite dish, antenna, extra speakers; computer accessories such as a keyboard, monitor and mouse; and telephone devices, including lines, telephone handsets, headsets and other peripherals. In addition, do not forget to include the many ways of interconnecting each form of electronics with the outside world. After all, connecting a device to the Internet requires some kind of translation device between your send/receive end (sometimes a computer) and the other side of send/receive (Internet providers, for example).

What number did you calculate? Whatever the number, it all adds up to a ton of copper, insulation and circuit breakers!

Most of us are plugged in to the world of electronics, especially to the electric devices that provide support when we are away from the umbilical cord of our main workplace. Technology is rapidly advancing with devices that do not have specific wires to connect for powered functioning. The most visible example is the cellular phone.

Mobile technologies are concerned with more than just battery replacements. Rechargeable devices, such as those used in cell phones, laptop computers and PDAs (personal digital assistants), have greatly aided the proliferation of take-it-with-you technology. However, rechargeable devices need more than the replacement of electrical wires (your extension cord would never be long enough). Wherever you travel, the need to access people (both voice and electronic) along with data content, is a growing requirement for business and personal activities.

You must include more items in your equipment backpack, additional resources and the latest technologies so that you can receive the best results in this data-centric world. Just having a cell phone does not automatically give you access to your contact list, and just having a PDA does not mean that your calendar is automatically current and correct. Need more information? There are countless publications, Web sites, books, training courses and even friends that can provide additional volumes of data to digest.

Getting Started

Whether your professional world focuses on public practice or business and industry, the need to manage what, where and how requires support from a range of sources. Business operations have grown past using the U.S. Post Office as a main source of communication between people (34 cents on each small envelope starts to add up). The fax machine, invented in the 1940s (yes, that long ago) changed the communicating world in the late '70s, becoming an essential element for offices of any size. In the '80s, the PC became first a status symbol, work horse and toy,

but by decade's end, was found to be indispensable. Cell phones pushed through in the '90s as business and personal essentials.

PDAs, with all their features, have evolved over the last few years beyond basic calendar and contact management: there are many applications that make use of wireless modems, and applications such as stock tickers or sports scores are common. The new apps also enable email data content search. If you make use of these devices, be advised that technology is making considerable enhancements to merge the two technologies. Watch for this combination and see how it fits your needs.

Telephones

Without a doubt, traditional offices still use wired telephones tethered to a desk location. However, the new breed of wireless telephone systems gives users the flexibility of wireless — at home, in the office or on the road. Of course, the wireless phone user has to pay attention to surroundings; it is a disaster when one talks and does not pay attention to driving or wants everyone within range to listen into their side of the conversation.

During this decade, we will change to a single phone that works with both in-house telephone systems and external, wide-area digital telephone networks. As wireless networks servicing voice and data applications converge with IP networks across the Internet, one can envision a situation in which a person only needs to carry one telephone handset, whether inside or outside the office, using the Internet as a long distance carrier. In the future, smart phones and some PDAs will be able to communicate with

in-house wireless phone systems. For example, Nokia already has the 9110 Communicator that has basic capabilities to communicate with external wireless networks.

Phones from Nokia and other vendors, such as Ericsson and Motorola, combine key elements of advanced technology, including a high-resolution color display, high speed mobile email, a new user interface, and multimedia capabilities like full color video clips. The Nokia product supports commonly used PC office applications, such as Windows and wireless Java applications, that are common in Internet-based technologies.

Cellular technology is getting much better, too. There are better batteries, longer ranges, more features and other improvements. With these advances, there are certain basics to remember. First, make sure that your next phone is digital (analog just does not have enough capacity). Second, figure out how many features you really need. Putting an MS Word application on a tiny screen may not make sense. One of Nokia's new phones even has a vibrate mode that enables the phone to dance around on a tabletop in time to the music (I am not making this up). Finally, determine how small a phone you want and how much you are willing to pay. Having a Motorola Star-tac costs more than the Nokia 6190. Decide if the extra money, as much as $200, is worth the convenience.

Mobile Computing

As for laptops, there are too many places for you to get information. The minimum recommendations include a hard disk of more than 10gb and a screen wider than 14." Make sure there is a USB connection and a PCMCIA slot. For more data, explore Web sites from Dell, Compaq, IBM and Toshiba, as well as information

sites like *www.mobileinfo.com* and *www.pcworld.com*.

PDA handhelds are supported on two basic operating system platforms — Palm OS and Microsoft Pocket PC. As of today, both platforms provide the same basic functions — calendar, contact management, note taking, and both enable wireless modem attachments. At the beginning of 2001, the number of add-on programs for Palm far exceeded Pocket PC because of Palm's longer history.
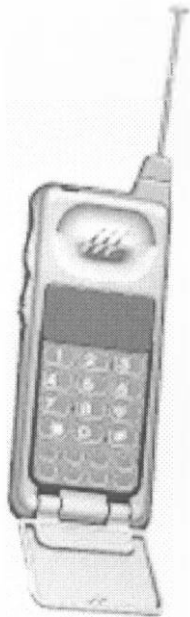
Industry advice says to try both of the devices and see which one feels more comfortable to you. Compaq's IPAQ has an incredible color screen and is very helpful for older eyes. Both handheld devices have built-in synch functions.

A key requirement for mobile equipment is to consider where the data resides. For example, if you use both a desktop and a laptop, the user will want to know which device contains the master set of data. If you use multiple devices, then make sure you make use of synch software, such as Active Synch or LapLink.

Other Mobile Accessories

There are many "extras" to explore that will enhance a person's mobility, and provide additional control and security for your road trips.

For the truly mobile, it takes more than an extra supply of batteries. To begin planning, take a look at various sites. One is Belkin (*www.belkin.com*), a company that offers function, quality and value — as well as electronic equipment components like AC Anywhere, USB connectors and many other products.

To ensure that electrical and telephone power is available, pick up small line testers from Radio Shack. While there, pick up a multi-plug extension cord, as not every hotel room has enough outlets.

Iomega (*www.iomega.com*) is known for more than just their ZIP drives — they also have click drives that fit inside the PCMCIA slot and can hold 40mb. Customers also can buy a click drive accessory that attaches to the desktop for true data transfer over long distance. For example, I used a click drive to carry two presentations, slightly more than 28 mbs, complete with video clips. I loaded the click drive in the borrowed laptop and did not have to even copy the files onto someone else's hard drive. The click operated like an external drive, and worked flawlessly.

Heard of Global Positioning Systems (GPS)? If you really need to know where you are, there are software products for your laptop and PDA, along with the accessories to make the satellite pickup. For a separate handheld device, check out the Garmin (*www.garmin.com*).

A scanner is another accessory that has become an essential. Today, there are lighter, cheaper flatbeds, but for the mobile person, there are small devices from Antec (*www.antec.com*) that roll

The Disconnected Professional continued from page 6

one sheet at a time, and even a smaller device called QuickLink from WizCom at *www.wizcomtech.com* (see product review in *InfoTech Update*, Sept/Oct 2000) that scans a letter, word or line.

Don't forget a really good carrying case. Key to operating in a mobile environment is to remember to take all of the recharging units, telephone wire connectors, USB synch cords and other items. In addition to reviewing cases at Belkin, check out products from Kensington (*www.kensington.com*). Remember: the more you carry, the more luggage wheels are a great asset!

Enhancing your Mobile Experience

For back ups, security and data sharing, various Web sites have emerged to hold data that can be accessed with an Internet connection. Web storage sites include

www.idrive.com and *www.xdrive.com*. Before using any Web site for data warehousing, determine their continuing reliability. Data protection and risk of data loss should be key concerns.

As for controls and working away from home or office, take a peek at *www.x-traweb.com*. This application connects a Web application with the home-based X-10 electrical controls. With these devices, you can check to see if a window is open, turn light switches on or off, turn lawn watering on, and other activities. This transfers to the office environment of any size to set security systems, controlling HVAC and checking whether doors are locked.

Don't forget about Bluetooth (see *InfoTech Update*, Sept/Oct 2000). This technology enables the use of a low-end radio frequency spectrum for a short dis-

tance of 30 to 300 feet. Think about roaming around your house or office without ever having to worry about tripping over wires. How this works is not as important as whether the applications are valuable to you. Buying products from a vending machine with your cell phone may not be important. However, buying gas without a credit card may be a more secure way for you to travel the road.

Whatever and wherever you travel, take this last bit of advice to heart. All of the devices, wired and wireless, have the feature known as an "off-switch." There is a balance to life, and if you are connected to your data and business 24/7, what happens when you want to make that 10-foot putt, spend time with your family or pursue other dreams?

Richard Oppenheim can be reached at *roppenheim@systrustservices.com*. ⊞

ADVANCES IN XBRL — A ONE-YEAR UPDATE

By Eric E. Cohen, CPA

Eric E. Cohen, CPA, is the facilitator to XBRL.org for PricewaterhouseCoopers, LLP. A technology strategist who has helped businesses with the selection and implementation of technology for more than 15 years, he has chaired AICPA's Computer and Technology Conference for the last two years. Cohen is a regular participant in the Top Ten Technologies Lab.

It has been a year since *InfoTech Update* carried a story on XBRL — eXtensible Business Reporting Language, the accounting profession's and investment community's contribution to the eCommerce space. This past year brought a major movement forward in the continued development of XBRL, the provision of tools for its use and market acceptance.

One year also has passed since the first, general presentation of XBRL. Looking back, XBRL has had its successes and struggles. Looking forward, XBRL stands to leverage both the specialized needs of its stakeholders and the maturing of XML, or

eXtensible Markup Language. As XBRL charts the path from the unknown to the inevitable, CPAs, financial professionals and others involved in the business community should understand the maturing of XML; the underlying technology of XBRL and its growth, including Steering Committee and international participation; and the emergence of the products and services that will make XBRL more acceptable in the marketplace.

What is XBRL?

XBRL is a way to represent financial statements and other business reporting information using the Internet language hailed as the most important technology of the last decade. XML has seen unprecedented acceptance as the language of eBusiness; XBRL, then, is the financial stakeholder community's contribution to emerging XML specifications.

Technically, XBRL is a specification that includes a skeleton known as the XBRL specification for business reporting using

XML. The specification is a series of agreed-upon vocabularies describing different areas of financial and business reporting.

XML has existed for three years, and was designed as a simple tool with tremendous benefits. It is a cross-platform, application-independent, machine-independent, standardized data transfer language that is potentially both human- and machine-readable. XML has quickly gained acceptance in corporate America and around the world, and is expected to see massive growth over the next three to five years. This overwhelming acceptance has seen every major hardware and software company, including IBM/Lotus, Microsoft, Sun Microsystems and Oracle, struggle to add XML capabilities to its products and be known as the companies who are "catching the XML religion."

XML is a flexible specification that lets users create their own languages for sharing documents and data. By encasing agreed-upon sets of terms within angle brackets, such as <purchase_order> or <journal_entry>, users can capitalize on the emerging XML-enabled tool sets to integrate systems that were previously very difficult to bring together. Publishers can more easily create content once, and then republish that content to multiple formats, such as HTML for a PC Web browser, PDA, cell phone, print or text-to-speech.

As XML-hype brought competitors together, XML was the catalyst for industry groups to collaborate on new, shared vocabularies. The hype surrounds the ease with which XML can integrate disparate systems and bring small and medium enterprises (SMEs) into the world of electronic data interchange (edi or exchanging data electronically, compared to Electronic Data Interchange, the standardized machine-to-machine exchange of standard business documents). This

> *XML was designed with the goal of providing 80 percent of the functionality of the Standard Generalized Markup Language (SGML) with only 20 percent of the complexity. The hype increased to the point where every major software and hardware vendor stated publicly that XML was THE most important technology of the decade or even the last century!*

promise has excited businesses and organizations like never before.

These vocabularies — which XBRL calls taxonomies — are valuable, as groups of organizations that need to share data come together in a collaborative role and competitive cooperation, to create an agreed-upon vocabulary that provides consistent, machine-readable tagging of data.

Communities are collaborating to come to agreement on those sets of terms that will be exchanged (encased within the angle brackets). XBRL, therefore, is the result of stakeholders in the financial and business reporting marketplace agreeing on sets of terms for various areas of business reporting, including financial statements for various jurisdictions and industries, taxation and regulatory filings, performance measurement, and other existing and emerging business reports.

XML was designed with the goal of providing 80 percent of the functionality of the Standard Generalized Markup Language (SGML) with only 20 percent of the complexity. The hype increased to the point where every major software and hardware vendor stated publicly that XML was THE most important technology of the decade or even the last century! Expectations grew to where XML could tame any data-sharing problem, walk your dog and even solve world hunger. Today, however, there are consequences; XML is a catalyst, but also a problem.

XML Maturity

XML is going through an explosion of its own. Although XML became a standard — a recommendation of the World Wide Web Consortium (W3C) more than three years ago, many important pieces of the XML puzzle only now are being discovered. XML is more than a few rules about nesting angle brackets

Advances in XBRL—A One-Year Update continued from page 8

and using proper combinations of letters and numbers within the brackets. It also is a family of additional specifications from the W3C of rules for styling, transforming, querying, encrypting, digitally signing and, perhaps most importantly, validating those files.

The bad news is that any work relying on XML standards has had some hard choices to make. The validation tool that came from the SGML world, called document type definition (DTD) files, have limited usefulness in an XML data world. The answer, called XML Schema, has been years in the making, and is under tremendous fire by some of the best known architects of XML. For specifications based on XML, and based on (the ever-changing) XML schema, this is a problem.

Digital signatures and XML encryption are just starting their path through the standards process, so standardized, secure sharing of XML information is yet to come. Yet Microsoft, with its .NET and BizTalk efforts, joins other organizations with large bets that XML will pay off — big — in the very near future. As corporate users become aware of the power of XML through desktop products like the new Office XP, issues such as filing XBRL with the SEC are ironed out, XBRL will increase in value, ease, awareness and possibility.

For CPAs and others who think that XML is a fad, events of the last year included the planned development of next generation EDI by the major standard setters, ASC X12 and EDI-FACT. This commitment proves that XML will be part of the landscape for a long time to come. However, for readers who believe that XML will replace EDI completely — as companies magically exchange semantic meaning effortlessly — legacy systems hang in and XML is still emerging. XML is not a miracle drug able to do everything. The XML family of specification is coming together far more slowly than anyone expected, and small, sure steps may prove more important than providing 110 percent of the required, requested and hoped-for feature set ... yesterday.

The good news is that the time for XBRL is right. The major, accredited standards bodies responsible for EDI are beginning the move to embracing XML and developing next-generation EDI based on both current semantics, moved along by 20 years of EDI development and the promised benefits of XML. United States and European standards are planned to merge. However, EDI has included little thought of internal accounting and finance, or of providing standards for the representation of financial information to the capital markets. XBRL is posed to meet that need, and to extend and embrace current EDI standards.

XBRL Development
The interest in XBRL continues to grow, regardless of the technology. Steering Committee members, committed to the technology for the promised benefits, continue to grow the international vision of XBRL. From the original dozen members to 35 in spring 2000, XBRL membership has grown to more than 80 organizations. This interest has led to the emergence of the International Accounting Standards Committee's (IASC) draft of their taxonomy.

A quick look at the membership as of April 2001 (see *www.xbrl.org*) shows stakeholders represented by users, software developers, accounting firms, members of the accounting profession, governmental entities, data aggregators and many other types of firms, all who believe that making financial and business reporting data more sharable and reusable is a valuable thing.

The first public unveiling of XBRL brought with it a draft release of the underlying technology (how the angle brackets will be assembled together), the first set of terms, and the U.S. GAAP financial statements for commercial and industrial businesses. After an exposure period, the specification and set of terms — called a *Taxonomy* in XBRL-speak — were officially released in version 1 form on July 31, 2000.

Many other communities of stakeholders now have formed, and their work on taxonomies has begun as well. XBRL, known more commonly as XBRL.org, is currently organized under the AICPA, but plans are being made to make it an independent, international organization. In fact, U.S. members held their first jurisdictional meeting in January 2001, and in February, the first international meeting was held in London.

At this meeting, the IASC, which had assembled a team of reporting specialists to prepare an IASC taxonomy, officially presented to the international organization its first major draft of the taxonomy for commercial and industrial companies.

Canada has had its grand kick-off, and other countries are working toward delivering localized specifications. With the European Union (EU) mandating IASC reporting for member country reporting within the next five years, there are hopes that this mandate will help spur acceptance of the technology. Representatives from around the world joined representatives from the existing U.S. group to begin the official task of moving the XBRL work into the international market.

Technology Doesn't Stand Still

The U.S. GAAP taxonomy needs to be updated as GAAP changes, but the underlying technology has to keep up with the times as well. The XBRL team chose to be tremendously proactive by finding leading (some may say "bleeding") technologies to make sure the work is not quickly made obsolete. However, one of the key technologies on which XBRL is based—XML Schema—has seen revolutionary change over the last year, while not becoming settled enough to rely on wholly. In February, the XBRL team responsible for maintaining the technical specification solicited ideas for the next version of the XBRL technical specification.

Acceptance of an emerging technology requires two foundations: a technology, and a way to use that technology. Last year, experimenting with XBRL meant firing up Visual N++ (a.k.a. Notepad) or some of the rudimentary XML editors available (such as Microsoft's free XML Notepad). This is a far cry from user-friendly, transparent tools.

While a year ago there were no XBRL tools, today, there are dozens. This includes, for starters, accounting software that makes XBRL-generation a one-time mapping task; easy, manual, fill-in-the-form document creators; programmer's COM objects that understand XML and XBRL, providing easy access to files using VB or Java; and audit workpapers that can bring in XBRL from outside sources for auditing and publication purposes.

Tools for working with XBRL are emerging. Vendors offering these tools include XBRL Solutions

> *XBRL looks to "cash in" from the continuing growth of XML in the marketplace. However, acceptance now is limited only to the corporate level.*

(*www.xbrlsolutions.com*), Virtual BTS (*www.virtualbts.com*) and e-Numerate (*www.e-numerate.com*) — all producing software solutions that bring the underlying technologies within the grasp of end users and taxonomy developers. Accounting software products, including Navision/Daamguard (*www.navision-us.com*) also are shipping XBRL capabilities within their products.

Market Acceptance

Many organizations and government entities have begun to examine the efficiencies and power that XBRL promises. Like the emergence of the fax machine or email, the value of XBRL to the first few organizations using it are limited. However, as with today's universal placement of fax machines in businesses and homes, and with email available freely, the growth of XBRL should skyrocket.

XBRL looks to "cash in" from the continuing growth of XML in the marketplace. However, acceptance now is limited only to the corporate level. Although it will take some time for the benefits to trickle down to smaller organizations, many events will lead to that happening.

While the latest versions of most enterprise databases and ERP products are XML-ready, XML has not hit the desktop to the same extent. XML on the desktop is expected to follow a path similar to HTML — only more quickly. Creating an HTML file required dedicated HTML tools in the mid-'90s, but was an integral part of most strategic business information tools by the end of the decade. Creating HTML is no longer the domain of techno-geeks; it now is as simple as "Save As HTML" from any word processor, spreadsheet or presentation tool. XML is following a similar path.

While the current version of Microsoft Office uses XML, the program uses it internally for maintaining styling and other important information when round-tripping to HTML and back. Accessing XML within Excel or Access is done using programmatic means. The next versions of Excel and Access will make working with XML much simpler — moving toward that "Save

Advances in XBRL—A One-Year Update

As XML" functionality. The competing Smart Office from Sun reportedly will store all of its data in XML format to make its Java-based, cross-platform tool even easier to use.

XBRL will leverage this XML-enablement, while relying on its Steering Committee members to integrate XBRL into their accounting products. Demand will drive more development of software and services, which will, in turn, make XBRL more widespread and attractive, and increase demand. Think, again, of the fax/email scenario: XBRL will increase in value when more organizations use it. Standards are not valuable because of their perfection; they are valuable because people use them.

XBRL GL

CPAs and the accounting community will find themselves affected by XBRL in many ways in the short term. With Navision shipping XBRL-enabled software, end-users may ask for the CPA's help to properly configure it. Other vendors are offering XBRL software for developing extensions to the existing taxonomies or to completely new taxonomies, so there may be a need for help in identifying and categorizing the areas of business reporting that will solve internal and external reporting needs.

XBRL GL (general ledger) will be useful for bringing together systems where it was nearly impossible before XML and XBRL. XBRL GL is an emerging work that has captured the needs of both European and U.S. markets in one data hub format. It permits the transfer of journal entries and GL history between disparate systems. As the accounting software developers integrate XBRL GL into their products, it becomes far easier to share data between systems, to move information between the GL, and to budget and analyze products; and offers assurance that data entered into an ASP can be analyzed, reused and transferred to other systems, eliminating dead ends.

The work between the XBRL group and the EDIFICAS group, responsible for financial electronic data interchange for the European market, is groundbreaking and stands to be at the foundation of integrating EDI and eCommerce with the accounting back office — something that has not been an important part of the prior EDI and eCommerce space. The collaboration makes XBRL far more valuable to the smaller firm by facilitating more tasks in which the firm is involved. It also provides more relevant information to the bankers, CPAs and chartered accountants with whom the small enterprise is more likely to do business.

What the Future Holds

As the foundational technology of XBRL stabilizes and tools begin to emerge, the profession's participation in driving the design of XBRL specifications and tools, as well as active participation in encouraging stakeholders in the XBRL information supply chain, is requested. The benefits of a cross-platform, application independent, standardized data exchange format for financial and business information are met best when used.

At this time last year, the technical specification for XBRL—with a way to represent a collection of terms and their interrelationship—along with the first collection (U.S. GAAP financial reporting for U.S. companies), was demonstrated to the marketplace. As a foundational technology, XBRL did not lend itself to quick acceptance and usage, any more than being the first person on the block with a fax machine made sense. XBRL needed end-user tools to make tagging data easy, as did additional taxonomies for more jurisdictions and specialized add-ons by industry. These are now starting to emerge.

With the availability of a wider variety of available software products, the draft release of the agreement of terms for IASC financial reporting for commercial and industrial organizations, and the growth of XBRL into an international group, XBRL is poised for greater acceptance, and is far more attractive to business.

This growth means that XBRL, as a tool for speeding information movement between companies, CPAs, lenders, investors and regulators, is far closer to realization than ever before. Input to the ongoing development process will help guide the course of XBRL into a more relevant tool for business and the profession. The demand for XBRL functionality from the software developers, including queries and requests that write-up products, tax products and other tools used to create financial and business reporting data and its communication, will facilitate the vision.

Contact Eric Cohen at *eric.e.cohen@us.pwcglobal.com*. ⊞

XBRL.org

Mark your calendar!

AICPA TECH 2001
Computer and Technology Conference
In partnership with the ITA Section and the Nevada Society of CPAs

June 19–21, 2001

The Bellagio, Las Vegas, NV

Pre-conference workshops on June 18

TECH 2001 presents a stimulating program showcasing new and cutting-edge technological, business and strategic information that you need to compete effectively. Don't miss this opportunity to gain strategic knowledge and network with your peers and national experts in Las Vegas. For further information, or to register, please visit *www.aicpa.org/conferences.*

Infotech update

AICPA