

Don't Give Up On Paper

by Shari Missman Miller



Wednesday, June 7, 2000:
"A federal judge today ordered software powerhouse Microsoft Corporation to be split in two in a final antitrust ruling that could change the face of computing around the world."

— America Online newservice

Although there's a long appeals road ahead for both sides, it's not out of the question that Microsoft will end up losing its battle for autonomy. Not quite endangered in the immediate future, Microsoft consumers are breathing a sigh of relief that for the moment the view is still sunny through Windows.

Remember when?

Out of a false sense of obligation or security to giants such as Microsoft, have we become a society of disbelievers? Did we laugh in the face of VHS annihilating Beta? Were there looks of apprehension as the beloved 5¼-inch diskette was given the cold shoulder in favor of the newer and much cuter 3½-inch disk? Did we, as a society of disbelievers, ever imagine we would have at our disposal such an array of electronic conveniences (that is, Palm devices, digital cameras, DVD, and so forth)?

As electronic mail continues to inundate our hard drives and spreadsheets fatten our databases, business and industry must pause during this electronic gobblefest and contemplate the future. Yes, we survived Y2K, and ironically in return many have gained a false sense of security. Sure, thanks to technology, we are now able to manage business more efficiently and effectively than ever before, but how long will this imaginary electronic safety net last?

Microsoft Corp. is a metaphor for what we, as a society of disbelievers, call the "It will never happen to me" syndrome. (I refer to the 40 years of nonbelievers ignoring the Y2K warning.) Don't look now, but it's happening in business everywhere. To make matters worse, the damage won't be visible until it's too late.

Experts in the field of electronic document management have been trying to explain the issue, but we have been too busy getting ahead and staying compatible to listen. Here is the warning, albeit paraphrased: We, the spoiled brats of the computer generation, are headed for an electronic records crisis. It may not happen at the stroke of midnight on New Year's Eve, but inevitably it could compromise the integrity of our record-keeping systems and our preservation of critical information. In other words, the backup disk you just put in the safe could someday be useless in restoring crucial data.

August *OfficeSolutions*

Work in progress

According to the InterPARES (International Research on Permanent Authentic Records in Electronic Systems) Project, there's currently no method of effectively and permanently preserving and authenticating documents created or stored on electronic record-keeping systems—namely PCs.

"The records generated by society in the course of its activities need to be preserved, sometimes permanently, as critical instruments of accountability," reads the project's introduction on its Website (www.is.gseis.ucla.edu). "Physical care of records is not sufficient, however, to ensure their preservation for the protection, perpetuation, and advancement of modern society. The authenticity and retrievability of the records that are to be kept in perpetuity must also be guaranteed."

Dr. Philip Eppard, dean of the School of Information Science and Policy at the University at Albany—State University of New York and director of the research project, says we're definitely headed for an electronic records crisis. "It will make the Y2K problem seem like nothing," he says.

Although most people may think the answer lies in fancy document management software offered by companies such as LaserFiche, such software addresses only one side of the issue. "Where are we in 25 years with a document management system?" asks Eppard, "Can they or anyone guarantee preservation with the changes in technology that are inevitably going to happen over the next 10, 20, 50 years?"

Storage of electronic information has become so advanced that there's virtually nothing we can't scan or create that can't be organized, indexed, and stored for short-term future use. As scientists agree, however, it's not the technology that is causing the problem. It's the fact that there's currently no universal standard in which to save the electronic data for the long term that completely guarantees its preservation and authenticity to some

unknown date in the future.

Ten years ago, when a critical document was created and saved in a word processing program such as Wordstar, it was considered safe. Now, both the software and hardware are obsolete, and the only chance of restoring the document is if it was saved as a basic computer text file, such as an ASCII file. (ASCII stands for American Standard Code for Information Interchange—a standard, nonproprietary text format since 1963). If not, conversion may be impossible.

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"It is difficult to say what is going to happen in 20 to 50 years," says Eppard, "and that is why it is such a tough job to find an answer. We are going back and looking at the nature of paper and electronic records and using the approach of diplomatics to come up with what seems to be [the] key element to ensure authenticity."

The U.S. InterPARES Website notes the research project is, "funded by the National Historical Publications and Records Commission and is

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What Can You Do?

Until there's a standard for long-term electronic document management, there are a few things you *can* do:

Know what you have and organize it

Before determining what to do with important documents, files, and critical data, it's necessary to know what you have. Eppard notes, "You can't have a system of organization if you don't know what you have." Prioritize and categorize all files—paper and digital. Indexing will allow for an overall view of what is being produced and saved and will allow for easier future access.

Evaluate storage strategy

Finding the best way to store your data and digital information is more complicated than simply writing it to a CD or disk. The National Archives, whose job it is to preserve records forever, uses high-quality reel-to-reel magnetic tapes with a life of 10 to 40 years. They recopy the tapes every 10 years and retest them to ensure the data is intact. Depending on how they're made and stored, diskettes can begin to deteriorate in as soon as 18 months. Although CDs have more longevity in saving information, it's critical to update stored files every few years. No matter how information is stored, migration—the change from one hardware or software technology to another—is inevitable.

Evolve and migrate

According to a March 1999 report from the National Science Foundation, hardware and software developers upgrade or replace their products approximately every 18 months. The report reads, "We cannot guarantee the continued preservation and accessibility of the wealth of information that has been and is being created using this technology."

Migration is an archivist's process of continually moving data from a soon to be obsolete format to an emerging format. Other choices for preserving information range from printing documents on acid-free paper, which lasts longer than regular paper; converting information to microfilm (a somewhat outdated albeit reliable method); or translating text to ASCII format, which is nonproprietary and unlinked to any specific hardware or software. Unfortunately, ASCII doesn't preserve formatting such as bold or underline.

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a three-year project examining issues relating to the short- and long-term durability, accessibility, and usability of electronic records systems, as well as the authentication of their content. An interdisciplinary team of researchers drawn from archival science, preservation management, library and information science, computer science, and electrical engineering are working together with the United States National Archives and Records Administration to identify and model the form, function, and structure of digital systems, their content, and their metadata critical to meeting these needs, with a specific focus on information that is created for record-keeping purposes in a variety of organizational and social contexts."

Most importantly, the site explains, "The broad goal of the InterPARES Project is to develop the theoretical and methodological knowledge essential for the permanent preservation of records generated electronically, and, on the basis of this knowledge, to formulate model policies, strategies, and standards capable of ensuring their preservation."

No quick fix

Nien-Ling Wacker, founder and CEO of Compulink Management Center Inc. and its subsidiary LaserFiche, is also concerned about the future of electronic document management and has been since the early 1980s when she began writing the PC imaging software now sold by her company. Since 1987, LaserFiche has been helping organizations digitally archive and retrieve documents. "With LaserFiche technology, companies can set up digital folders to mirror their existing filing methods," says Wacker. "Users can scan paper documents into LaserFiche as TIFF

images or import electronic documents in either their native file formats or as TIFF images."

According to Wacker, using LaserFiche WebLink, companies can allow employees, business partners, or other authorized individuals to access selected documents from their digital archives using any Web browser. An organization can post any paper or electronic file on a site by scanning or importing the file into a LaserFiche database.

Although LaserFiche's technology is being used by more than 14,000 government agencies, schools, law offices, insurance companies, and businesses around the world, there's still a question of longevity. Wacker assures that LaserFiche's technology will not be compromised by changes in computer science. "People don't worry about preservation for the long-term future and it is a legitimate concern," says Wacker.

Unfortunately, there's no quick fix or definitive answer. It's not suggested that every piece of paper be saved in hard copy, nor should every page be scanned into digital form. Until there's a universal standard covering electronic document storage and authentication, which guarantees unlimited preservation, the only way to protect business records and information is to be aware, be organized, and have a plan. "The answer is not necessarily to make all paper electronic," warns Eppard, "but be sure you have a records management program in place for managing your current paper files. That involves identifying the records you are creating, having proper filing structures, and determining how long you need to keep [those records] for your administrative, tax, and legal purposes."

Although Eppard does think there's a major reason for concern, there's also hope. "I think that finally, within the last few years, there is a lot of attention beginning to come to this problem. The National Archives has been working on electronic records preservation with the San Diego Supercomputer Center, and the National Science Foundation is starting to put some money into this as well. Gradually people are becoming aware that the information on computers and disks has a short life span." **OS**

Shari Missman Miller is a freelance writer based in the Midwest.

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