House Legislative Analysis Section

Manufacturer's Bank Building, 12th Floor
Lansing, Michigan 48909
Phone. 517/373-6466

House Bill 5013 (Substitute H-3)
House Bills 5019-20, 5031-34, 5320-24, 5592-5604, and 5772-5781 as introduced
First Analysis (6-5-90)

Sponsor: Rep. Roland G. Nederstadt
Committee: Towns and Counties

THE APPARENT PROBLEM:

Archivists and records managers in both the public and private sectors are facing increasingly larger — and increasingly more unwieldy — amounts of information to store and manage. According to one estimate, 95 percent of office data is stored on paper, 4 percent on microfilm, and the rest on other storage media (including magnetic, ROM, RAM, CCD, and digitized image storage). Digital or electronic imaging systems, which electronically store and recreate document images, have the potential, through their tremendous storage capacities and random access features, to eliminate many mass paper collections and to replace many microfilm collections. Called "WORM" ("write once, read many"), optical storage disk systems (which are the most commonly discussed digital imaging systems) allow thousands of documents to be stored on one optical disk without threat of erasure, and allow any document to be accessed in a few seconds, randomly, via the touch of a few keys. A "document scanner," resembling a photocopier, is used to enter paper documents into the system, which are automatically indexed and stored on optical disks, similar to the audio compact disks used to play music at home. One standard 12-inch disk can hold the equivalent of 40,000 pages of paper documents. By touching a few buttons, a clerk can retrieve a document, display it on a video monitor, and print out a copy.

Optical storage systems are being used in both the private and public sectors. A growing number of federal agencies have begun using optical disk systems to store federal records, and although image processing technology currently accounts for only a small proportion of the billions of dollars spent each year by state and local governments on information technology generally, the numbers are growing annually. One market research firm reports that state and local governments bought 73 image processing systems during 1989, at a cost of $30.9 million, compared to 37 systems purchased in 1988 at a cost of $17.1 million. The firm expects that state and local governments will buy 102 systems this year at a cost of $39.6 million.

Currently, there are a number of state laws that govern various kinds of official records and that mention specific kinds of technologies for recording and copying records. Technologies now mentioned in law include photography, microphotography, photocopying, filming, microfilming, and photostating. Legislation has been proposed to allow the use of optical storage systems for reproducing and storing official records.

THE CONTENT OF THE BILLS:

House Bill 5013 would create a new act, the "Records Media Act," which would allow reproduction of records, both official government records and those made by non-governmental persons, to be made by optical storage disk as well as by photography, photocopying, and "microcopying."

The Department of State and the Department of Management and Budget would jointly, through administrative rules, set standards for reproductions of records. In the case of government records, the departments would set standards for "the creating, processing, indexing, storage, retrieval, durability, and inspection" of reproductions; for reproductions of records made by persons other than governmental entities or officials, the departments could set standards for "the creating, processing, and durability" of the reproductions. The standards would have to require that optical storage disk systems were compatible, and the provision allowing reproduction by optical storage disk would not be effective until the rules had been promulgated.

The other bills, all of which are tie-barred to House Bill 5013, would amend existing acts pertaining to the recording and keeping of various official records as follows:

- House Bill 5019 (MCL 54.213): land survey maps kept by registers of deeds;
- House Bill 5020 (MCL 691.1111 et al.): local (city and county) records;
- House Bill 5031 (MCL 561.15): the replacement of official records destroyed by some major disaster, such as fire or flood;
- House Bill 5032 (MCL 560.243): recorded plats;
- House Bill 5033 (MCL 440.9403 et al.): secured transactions governed by the Uniform Commercial Code;
- House Bill 5034 (MCL 691.1101 et al.): state and local records, including the records of municipal courts;
- House Bill 5320 (MCL 169.216): statements or reports filed under the Michigan Campaign Finance Act;
- House Bill 5321 (MCL 4.418): statements or reports filed under the lobbying act;
- House Bill 5322 (MCL 399.4 et al.): records falling under the Michigan Historical Commission act;
- House Bill 5323 (MCL 18.1269 and 18.1287): off-site storage of optical disks;
- House Bill 5324 (MCL 600.2136 et al): records falling under the provisions of the Revised Judicature Act of 1961;
- House Bill 5592 (MCL 555.841 and 554.842): records filed under the Living Care Disclosure Act;
- House Bill 5593 (MCL 8.201): state police records to be admitted into evidence;
- House Bill 5594 (MCL 285.215): records preserved under the Michigan Agricultural Commodity Insurance Act;
- House Bill 5595 (MCL 168.514): cancelled registration cards as described in the Michigan Election Law;
- House Bill 5596 (MCL 333.2876): vital records (including birth and death records) of the Department of Public Health;

OVER

- House Bill 5597 (MCL 550.1616): records filed under the Nonprofit Health Care Corporation Act;
- House Bill 5598 (MCL 449.1206): documents filed under the Michigan Revised Uniform Limited Partnership Act;
- House Bill 5599 (MCL 450.2131): documents filed under the Nonprofit Corporations Act;
- House Bill 5600 (MCL 450.1131): documents filed under the Business Corporation Act;
- House Bill 5601 (MCL 500.1506): insurance premium finance company records;
- House Bill 5602 (MCL 445.1704): records falling under the Credit Services Act;
- House Bill 5603 (MCL 491.426): savings and loan association records;
- House Bill 5604 (MCL 125.310): records falling under the Mobile Home Commission Act,
- House Bill 5772 (MCL 421.6a): records of the Michigan Employment Security Commission;
- House Bill 5773 (MCL 380.1057): voter registration records for registration school districts;
- House Bill 5774 (MCL 445.1671): records kept under the Mortgage Brokers, Lenders, and Servicers Licensing Act;
- House Bill 5775 (MCL 451.813): registration statements, applications, and reports filed under the Uniform Securities Act;
- House Bill 5776 (MCL 559.240): public records kept under the Condominium Act;
- House Bill 5777 (MCL 700.152): certain copies of wills under the Revised Probate Code;
- House Bill 5778 (MCL 750.492a): copies of medical records governed by the Michigan Penal Code;
- House Bill 5779 (MCL 565.551): public records held by the register of deeds;
- House Bill 5780 (MCL 565.491): all deeds, mortgages, maps, and instruments that a register of deeds is authorized by law to record and keep; and
- House Bill 5781 (MCL 565.26, 565.28, and 565.43): the different sets of books kept by registers of deeds for mortgages and deeds.

FISCAL IMPLICATIONS:

The bills are permissive, rather than mandatory, so there would be no fiscal implications should the state decide not to use a digital imaging system. However, should the state decide to use optical storage disk technology, costs could range from several hundred thousand to several million dollars. According to an April, 1990 article in Governing magazine, single unit systems costing between $20,000 and $50,000 are typically networked together, with a system for five users ranging in cost up to about $250,000. A storage and retrieval system (aptly called a "jukebox") that holds several dozen disks (which otherwise would have to be selected and inserted into a scanner manually) costs anywhere from $50,000 to $200,000, depending on its size. The biggest optical disk systems at the state or local level range in cost up to about $2.5 million for a system including a jukebox and workstations for 75 users.

ARGUMENTS:

For:

Efficient and effective records storage and retrieval is a goal of all records keepers. Optical storage disk systems enable government agencies (as well as private business) to efficiently store and quickly retrieve enormous numbers of documents. What is more, a document is available immediately for viewing after it has been recorded on the disk, unlike microfilm, where the document isn't available until the film is processed. With microfilm, moreover, rolls of microfilm have to be mounted and searched to get to a particular document, and the document (as well as any other documents on the roll) is available to only a single user at a time. With optical disks, access is random (and immediate), and many people working on an optical system can view the same document simultaneously. Because of this kind of efficiency, image processing on optical disks is starting to gain acceptance at the state and local levels after 10 years of research, testing and demonstration. As one commentator notes, the proud optical disk system owner is typically the agency that used to look out from behind the tallest stack of paper. It may be the office that handles vital records, land records, pension fund administration, taxation, or voter registration.

The state of Delaware, for example, has spent $800,000 on image processing hardware, and it will lease workstations and software for $400,000 annually, making this one of the bigger image processing projects on the state and local government levels. Delaware uses its system to provide seven-day service for corporate filings, such as certificates of incorporation or stock amendments, and this year the state began testing a new service that adds fax capability to the image processing system that will eventually allow 24-hour "rush" service for merger reviews. State officials believe that this kind of capability can give them an edge in attracting vital corporate resources for their economy. Delaware ranks sixth in total incorporation filings but lays claim to well over half the Fortune 500 companies.

Local units of government also can experience significant cost savings, once the initial investment is made in an optical disk system. Autauga County, Alabama, had been keeping most of its official documents — deeds, birth certificates, wills — in a 120-square foot vault. But many documents were turning up missing: Title companies had walked off with deeds, amateur genealogists had "borrowed" birth and death certificates on a permanent basis, andhistorians had taken the minutes from meetings. What is more, the microfilm used to store many of the remaining documents had faded, because one of the county's records overseers had used cheap processing to develop the microfilm. By changing to optical disk storage, the county has permanent records that cannot be taken or lost, it saves the county $15,000 a year previously spent on indexing the microfilming system, and postage expenses are reduced (when a land owner arrives to register a deed, the staff scans it into the system while the owner waits, instead of mailing it back days or weeks later).

The Department of Management and Budget notes that the State Records Center is nearly filled to capacity, estimating that all storage space in the building will be completely filled within two to three years. Use of optical disk storage could not only improve services but would indefinitely extend the amount of storage space available to this and other state agencies.

The current laws governing the reproduction of official records in Michigan are numerous and were made in a piecemeal fashion over a number of years. They need to be updated both to allow the use of this new technology as well as to standardize records reproduction. Michigan should be allowed to use the cutting edge technologies that will bring its records management systems into the twenty-first century.

MORE

Against:

As exciting as the possibilities of optical disk storage systems are, this is still an emerging technology, which means that there are no standards that currently govern the technology. In addition, optical disks are not a permanent storage medium, and the legal status of documents generated by the technology are up in the air.

Data permanency is a major concern to archivists. Good quality microfilm is believed to have a lifespan of 400 or 500 years. Manufacturers of optical storage disks initially said disks would retain data for 10 to 20 years, though more recently, one manufacturer came out with a disk it claims will be good for 100 years. But there is no accepted industry standard for measuring the longevity of optical disks, and little is known about the aging characteristics of the various disks since the system has not been in use long enough. In fact, one state technical bulletin says that not enough is known about the physical and chemical characteristics of the disks to even prescribe storage standards.

Another archival concern is that even if the disks last, say, 50 years, the image processing hardware, through obsolescence, won't be around to read them. Anyone doing historical research who has run into wire recordings, wax cylinders or the computer punch cards that were used in the 1960s and 1970s can appreciate the problem of obsolete information-storage technologies. And rapid technological change in the industry has already happened: three of nine image processing systems introduced between 1978 and 1986 became obsolete due to evolution in the technology, a 33 percent casualty rate.

But compatibility of hardware over time isn't the only standards issue: hardware and software sold by one vendor today often won't work with other vendors' systems, which not only encourages users to buy all of their hardware and software from the same source but also may limit, or at least make more expensive, adding equipment to the system later on.

The industry's economic volatility is another concern, and there is a danger that a user might buy a system from one of the leading vendors today and find that it has gone out of business tomorrow. The state of Florida, for example, found itself in this very situation when its vendor, Plexus Computers, Inc., filed for bankruptcy protection during installation of a commercial-filings system. The state immediately suspended the project and is trying to collect a performance bond posted by the vendor. (Another firm has bought the defunct company's software technology, which it is marketing under a similar name.)

Mainframe integration problems are another area that can present problems. That was one cause of failure for a state commercial-filings system in California last year. When the state's vendor linked a mainframe and optical disk storage system, the whole works came to a virtual standstill. The system couldn't process information fast enough, and the agency's processing backlog stretched to more than two months. The delays essentially shut down all commercial loans in the state for a 30-day period, since lenders depended on the state agency for information on property being offered to secure large commercial loans. When the backlog reached the 73-day point, the state stopped the system, reinstated the old semi-automated system, and hired 50 employees on a three-shift, round-the-clock schedule. It took two months (half a million dollars) for the state to get caught up.

The legal acceptance of optical disk systems for evidentiary purposes is still up in the air. The few states that have addressed optical disk issues with laws or regulations mostly have focused on administrative and archival issues, with Virginia being the only state with a law making optically generated documents legally admissible in its courts. Most experts believe that optical disk systems are easier to tamper with than systems based on paper or microfilm. Documents on even the so-called permanent WORM optical disk systems can be manipulated without the change ever being detected, making their use for legal documents questionable. Although the data on the optical disk is nonerasable, the index used to find the data is kept on standard magnetic media. An intruder who managed to circumvent a system's security could change the index entry for a document, so that it pointed to a new document scanned into the system. If that were done, the original document would essentially be lost. Reportedly, agencies in most states are keeping originals at least until the admissibility as legal evidence of documents generated by optical disks is resolved, either by legislation or court cases. In Texas, however, the attorney general recently barred certain agencies from implementing optical disk systems until the American National Standards Institute (ANSI) adopts adequate standards. The opinion was based on the interpretation that optical disks must meet the same requirements for permanence as microfilm, wherever such requirements are expressly mandated. However, the opinion does not address private sector uses or governmental records with non-permanent values.

Until standards are set and the legal issues are addressed, optical storage disks should not be considered for the retention of long-term or permanent records.

Response: Many of these concerns can be met or are being addressed. With a strong push from the government sector, the market is moving toward open-architecture systems with standard operating and networking protocols. And with regard to some of the other problems encountered by optical disk systems users, careful planning can screen out many potential negative results. For example, according to the vendor involved, the California commercial filings systems fiasco was due to the state's refusing to provide enough money for training and by going into the project without keeping its old system running until the bugs were worked out of the new one, which would have provided a backup. With regard to the legal issues, many legal experts say that most courts are likely to accept copies made from optical disks as long as the documents result from the agency's normal course of business operation. Optically stored data could be tampered with, but any media can be tampered with. The security for optical disk systems is exactly the same as the security for any other type of computer system — and computer security is a very mature technology, having been around for 30 years. In any case, any real or imagined security issues raised by optical disk systems are far outweighed by the better service they provide.

Optical disk may not be the ideal medium for long-term, archival storage, the legal status of documents generated by the system may be up in the air for now, and the lack of standards may mean that upgrading existing systems will be costly. Nevertheless, these all are problems that can be resolved, and in the meanwhile the bill would at least allow — without mandating — the use of this very powerful new technology.

OVER

POSITIONS:

The Department of State supports the bills. (6-4-90)

The Department of Commerce has no position on the bills. (6-5-90)

The Department of Management and Budget opposes the bills. (6-5-90)