Financial Desk; D
Technology; PHONES THAT DELIVER MEMOS

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PICKING up the telephone and hearing a singing telegram is a rare surprise nowadays. But in a few large companies, employees are picking up the phone and hearing talking telegrams sent by their colleagues.

A manager might pick up the phone and hear: "This is Bill Jones. Meet me at the airport today at 4 P.M." But Bill Jones would not be at the other end of the line. What the manager would hear would be an electronic reproduction of a message Bill Jones had spoken into his phone. Mr. Jones, in fact, might have dictated that call into the telephone several days earlier and programmed the telephone system to place the call at a specific time.

The voice telegram is a central feature of so-called voice store and forward systems, or voice message systems, which are just coming of age. For the last year, one company, three-year-old ECS Telecommunications of Dallas, has sold such systems to eight companies, including the Minnesota Mining and Manufacturing Company, Hercules, the Westinghouse Electric Corporation and the Atlantic Richfield Company.

Last week, however, Wang Laboratories became the first widely known office automation company to announce a product, and the International Business Machines Corporation is known to be developing one. Other companies expected to enter the market eventually are those that make office telephone switching systems, such as InteCom Inc. of Dallas, an Exxon subsidiary.

The voice message systems are electronic boxes that attach to an office switchboard, although they are eventually expected to be incorporated into the switchboard circuitry. The Wang and ECS models, while differing in price and specifics, offer the same general features.

In one mode, they perform many of the same functions of a telephone answering machine. Each user of the system has a "mailbox," which stores messages from other users. Each user can then call in from any Touch-Tone telephone and receive the messages. The voice message systems, however, offer an added feature. After hearing a message, the person can immediately speak his answer into the phone. The system automatically delivers the reply to the original caller.

The other use is for sending voice telegrams. A caller can recite his message into the phone and then, by punching keys on the Touch-Tone phone pad, can specify who is to receive the message and at what time. The same message can be sent to more than one person, in effect a telephone "broadcast," so that an executive can, with one phone call, inform all of his subordinates about an upcoming meeting.

Users who have passwords to the system can place voice telegrams from any telephone and can call phones that are not on the system.

Users of such systems say that they can be tremendous timesavers. The 3M Company, which started using the system a year ago, estimates that half of its internal calls do not get through to the intended party because the party is not available or the line is busy. By the time that party returns the call, the original caller might be out.

The 3M Company also estimates that 50 percent of its internal communications do not require the two parties to speak to each other at the same time anyway, making those calls candidates for the voice message system.

Some systems can be programmed to dial the number again at an interval if a busy signal is encountered or if the phone is not answered after a set number of rings. But the system is primarily intended to be programmed to send all messages to a waiting mailbox that can be activated at the user's command.

"I really think that there is more productivity gain with respect to voice in the automated office than anything to do with words, or images or data," said Thomas Elder, manager of information services for Frito-Lay, which tested the ECS system for three months using 60 salesmen around the nation. Such thinking about the importance of voice communications in the office was also behind the decision by Wang, a specialist in word processing systems, to get into the business.

Mr. Elder of Frito-Lay said that in the test, the number of outgoing calls that did not reach the intended party dropped 67 percent with the ECS system and the number of incoming calls that did not reach the salesmen dropped 31 percent.

Voice messages are also replacing short memos. At the 3M Company, for instance, some voice messages are circulated for voice comments, replacing the customary interoffice memo requesting written comments.

There are some drawbacks to the systems so far. One is the cost, which ranges from $100,000 to $500,000 for systems capable of handling from several hundred to a few thousand phones. Another is ease of use. Mr. Elder of Frito-Lay said that about 10 percent of the sales force rejected the system because they did not want to talk into a machine or because they did not want to bother learning the password and other codes they would have to punch into the phone. But most users were enthusiastic, he said.

The systems work by converting the sound patterns of speech into numbers that are represented by numbers that can be manipulated electronically and stored in a computer, just like other numerical data or text.

The problem is that speech, with its pace and pauses, takes up much more storage space than text. Two minutes of speech might occupy the same storage space on a computer disk as hundreds of pages of text. To make such systems economical, companies have developed proprietary methods of compressing the speech to reduce the number of bits required to store a message, while still being able to reproduce the sound accurately.

Nevertheless, storage accounts for 50 percent of the cost of store and forward systems, said Donald W. Young, president of Voice and Data System in Chicago, a new company that introduced its own voice message system in Atlanta this week.

As computer storage becomes less expensive and speech compression techniques improve, devices should become less expensive and easier to use with additional features.

While large corporations are the only ones making use of such systems now, the American Telephone and Telegraph Company filed a request last year to introduce such a system for residential and small business use in Philadelphia. But the telephone company, at present, remains stymied by regulatory snags.

Illustrations: cartoon

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