# ED ESBER

## On Computing In Multiuser Environments

*`There is an increased awareness of networks. When you think about it, what good is a data base on a stand-alone computer?'*

*A*long with Lotus and Microsoft, Ashton-Tate is one of the "big three" software companies. Based in Torrance, Calif., the company is run by president and chief executive officer Edward M. Esber, Jr. Under Esber's leadership during the past two years, Ashton-Tate hasn't been sitting on its dBase laurels. In addition to combating contenders for the data base throne, the company simultaneously diversified into integrated software by developing Framework, and into word processing by acquiring the MultiMate line.

The book on dBase has long been that it's incredibly powerful yet incredibly difficult to learn. Earlier this year, Ashton-Tate tackled the hard-to-learn issue with dBase III Plus, a new version that combined the power of dot commands with a more traditional user interface. This move seems to have solidified the company's place at the top for the time being.

Esber started his career as an engineer at IBM and also has worked at Texas Instruments and VisiCorp. One of the things he's learned is that users always want more of everything—more memory, more speed, more commands. And as the most advanced users advance, he says, they pass the fruits of the efforts down —along with hardware and software—to the next level of user.

Like many of its personal computer-using clientele, Ashton-Tate now is looking ahead to the long-awaited and discussed era of local area networks. Partly based on

*early user reactions to the networked version of dBase, Esber says networks will bring additional benefits and additional headaches. Linked departments will grow into linked companies as users begin to exploit the benefits of sharing data and programs. But technical and ethical problems, such as controlling access to files, will multiply, too. Also still to be addressed are issues such as software pricing and copy protection.*

*Recently, Esber talked about these near-term pitfalls and promises with PERSONAL COMPUTING 'S Editor-In-Chief, Charles L. Martin, and West Coast Executive Editor Sandra R. Reed.*

**QUESTION:** *Why does it seem that this year end users are focusing on data bases? Has something changed?*
**ESBER:** There is an increased awareness in regard to networks. When you think about data bases, what good—really—is a sophisticated data base on a stand-alone computer? We won't knock it. We've sold hundreds of thousands of copies of dBase to people with stand-alone machines. But a data base really comes into its own in a multiuser environment.

**QUESTION:** *What made people see that this year?*
**ESBER:** I guess the cries are louder that this year is going to be `the year of the LAN (local area network).' In addition, with IBM shipping their Token Ring network, and many of the other networks that are DOS 3.1-compatible coming out, there is really a new availability of hardware and operating system software.

**QUESTION:** *Why did dBase become the standard for data bases the way that 1-2-3 became the standard for spread-sheets and WordStar became the standard for word processors?*
**ESBER:** Early on, Ashton-Tate paid a lot of attention to its users and what they needed. In addition we cultivated a network of more than 1,500 third parties who developed applications in the dBase language. This propagated our product to a broader audience than there would have been otherwise.

## '*Most corporations are not setting standards from on high. A guy walks down the hall and he sees people using the product.*'

**QUESTION:** *Isn't dBase sometimes also the object of `hard to use software' jokes? Isn't that a contradiction?*
**ESBER:** Sometimes the standard products are both loved and hated. Sometimes if you're a user of the standard you like to say it's harder to use because that builds up the perception of your ability. In reality, there has been a gravitation toward standard products. As computers get brought to a broader audience, there tends to be less time spent on comparing products, and more time just picking the leaders off the shelf. Users want to know what the `name' products are, what's on the top of the list, what does the guy next door use?

**QUESTION:** *Are people simply asking the person next door `what do you use' and then just taking that? Or are they saying `what do you use' and then buying it and asking for help to get started on it?*

**ESBER**: I believe they get help from their office neighbors. In contrast to what we had thought earlier, most corporations are not setting standards as commandments from the MIS department on high. What's really happening is the office is influencing standards. If the MIS manager says you will buy this, this and this, it is less likely to happen than if the guy walks down the hall and sees three people using the product.

**QUESTION:** *Is that a change or is that really new recognition by the computer industry of the way it has been?*

**ESBER:** For a period of time the MIS manager backed away from personal computers, dismissing them as the rebellious teenagers that would go away. Ultimately they expected that everybody would come back to the MIS manager and be dealt with accordingly. Much of personal computing began as a revolt against MIS, and now it's clear that personal computers are not going away. The MIS manager is now finding it difficult to impose standards.

**QUESTION:** *Is that good or bad?*

**ESBER:** We need a balanced input from the MIS manager. It's bad when he or she is totally out of the picture, and I think it's bad when they totally control personal computer use. Personal computers—the magic of them—came from the attention they lavished on the user. We need to continue that balance of what we've brought to personal computing in terms of friendly software. Ultimately, we'll have a positive influence on mainframe software.

**QUESTION:** *So things will be ported up?*

**ESBER:** It's not necessarily that software will be ported up, it's that the influence of the user interface on personal computers will clearly influence future generations of mainframe software.

**QUESTION**: *Do you put much stock in the future of a graphics interface*?

**ESBER:** Absolutely. I think the Macintosh interface is clearly the interface for the future and that we'll see it in the IBM environment at some point.

**QUESTION:** *Who is it for: the new user or the experienced user or both?*

**ESBER**: It's funny that everybody seems to think that only new or unsophisticated users like friendly interfaces. I think power users like friendly interfaces as well and a good user interface will enable a power user to get more out of a product, too. The benefit is not only to enable first-time users to get at the basic power of personal computing.

**QUESTION:** *What will be the exact role of artificial intelligence in the new user interface?*

**ESBER:** AI was last year's buzzword, but I think it is very important and will have a pervasive influence on all computer software. It has spawned one new category of software called `expert systems.' I think it's very important as front ends or back ends to

existing software to anticipate what the user needs and wants. Computers are very literal, yet we'd like the computer to do what we mean, not what we say. I think AI will help us out in that area. I think AI will have a real influence probably by early 1987.

**QUESTION:** *Can you describe the business end-user of today, and where that person might be going a year down the road?*

**ESBER:** Today's business user tends to use one or two applications a lot, and then the third or fourth application at various times in a given week. The primary application is either a spreadsheet or word processor or data base. Thereafter, they are users of graphics or project management or other applications. Of course, there are exceptions. There are people who spend lots of time making graphs. Users of graphics products tend to have machines with memory in the 512k to 640k range and they have a hard disk.

Over time, instead of having a standalone system, users will be networked in a departmental system. This—at least for us in the data base area—will cause profound changes as to how we design software. Once you move to a multiuser environment, a data base product becomes very powerful. The more people that are on a data base, the more valuable it is to a company, the more likely it is that the data base will grow and each person will have access to more data. In addition, users will be more likely to want color graphics and there will be a graphics environment on the system that will enable us to write friendly software. Also, I think the advantage of a hard disk will dictate changes in the future regarding what we do in terms of copy protection.

**QUESTION:** *What is your view of copy protection?*

**ESBER:** As an industry, we have done a very successful job at getting in the way of legitimate users and we have been a dismal failure at preventing piracy through software copy protection. If there is a method of copy protection that will not get in the way of legitimate users, it involves a hardware manufacturer's cooperation. We haven't seen that cooperation yet so we continue to protect our software. There is an element of people who continue to pirate software. I believe corporations, by the way, are more cognizant of their role in policing the piracy of software and the responsibility and liability that they incur. With the exception right now of Ashton-Tate and Lotus, most of the software companies have gone toward unprotected software. I believe, in the next year or two, we may see one or more of the major software companies actually removing copy protection.

**QUESTION:** *What do you see as the reason that local area networks will take off sharing data or communications?*

**ESBER:** Prior to now, most networks of personal computers were primarily resource-sharing networks. There was no real network software out there. There was no real multiuser software. In the future, obviously we want to go beyond resource sharing. There are many applications, for instance, that involve a data base, to which multiple users need access. For instance, if you didn't have a mainframe in the pre-network days, each person kept their own customer list and each person's list might be different than the others. What will happen in a multiuser environment is that everyone's effort will be toward making that one list that is the best and is consistent. Networks will be driven by needs for things such as communication, sharing models, files and data.

**QUESTION:** *What about communicating quick messages?*
**ESBER:** More than likely, if you want to communicate to colleagues in your department, they tend to be located near you, so you can get up and talk to those persons. I think electronic mail comes into play when several departments are hooked up to a mainframe or a gateway to other departments. E-mail is like the telephone: Why do you want it if only a few people have it? Yet, the more people have a telephone, the more you want one, too.

**QUESTION:** *Can you tell yet if users are having more or fewer problems using dBase on a network?*
**ESBER:** Overall there's more problems for everybody. Going from a single-user environment to a network or multiuser environment involves complex technical issues that could have been ignored before. The security issues increase, for example. There are new issues of `file contention' and `deadly embrace,' that occur.

**QUESTION:** *Deadly embrace?*
**ESBER:** Well, what it amounts to is user A has a file 1, and user B has file 2. Now user A wants file 3 and user B wants file 1, but neither one can get there without the other one releasing the file that they're working on. If the software is written so that a user doesn't release the file he is on until he gets the other one, you've got this `embrace' that never happens.

**QUESTION:** *Is this your term?*
**ESBER:** No this is a technical term, something I learned in a bar.

**QUESTION:** *Is everything going to have to be on the network eventually or will people still have their personal programs?*
**ESBER:** People will still have their programs and their personal data. Their personal files or lists will be on their personal computers. Data bases will probably be on a file server for the department. There'll also be a corporate data base. So, there will be three areas where there is data or files.

**QUESTION:** *How can that be controlled?*
**ESBER:** Control is one of those words that managers throw around that stirs up a lot of emotion in people. Clearly, you can control your own files on your machine. Somebody will probably be designated to deal with the data that's on the departmental machine, determining who has access to it, who can read it, who can write back. The corporate data base tends to be the province of the MIS manager or his designate. Now that's when everybody's hooked up to every-body. I think what we're going to see first is a wave of departmental networks that aren't necessarily connected to mainframes. Ultimately, these networks will be connected to a mainframe, some other network of third-party data or for communications.

**QUESTION:** *Besides communications capabilities, what else do personal computer users tell you that they need?*

**ESBER:** People keep wanting more of whatever you give them. They also want more of what you're not giving them. They all continue to want more power. For instance, in the dBase area, they want a richer language, no matter what language you give them. They want more verbs, they want more commands and they want those commands to execute faster. They also want access to bigger and better files.

New technologies emerge from time to time, such as artificial intelligence, that can have a profound effect on the usability of software. One of the important things in a data base is the ability to extract data. The larger the data base, the more important it is to be able to cut this data in a specific way and extract only the data you want. That is why there is so much work being done on natural language, IBM systems query language, those kinds of things.

## *We have been a success at getting in the way of the legitimate users, yet we fail to prevent piracy through copy protection.*

**QUESTION:** *Looking at our subscribers and readers as a group, their computing expertise—based on what they say they are doing and the equipment they are using—is growing faster than a year ago. Do you see this happening, from your perspective? How do you keep up with it*?
**ESBER:** Corporations want us to change our software less frequently. They would prefer that we come out with new versions every year as opposed to every six months. In terms of the technology, I think we continue to have spurts of rapid change and what you're probably experiencing now is a spurt toward laser printers, color monitors, more memory, 286-type machines. But what's happening is the power users are passing their older machines down to the first-time users as they get the new hardware. When this guy passes on his machine, he's also passing on the software and buying the latest version. That means that first-time users get to start out on high-power software.

**QUESTION:** *Can these users keep up with such products?*
**ESBER:** As the power products become easier to learn and use, a user can dip his toe in the water—if he wants. So, if you know ultimately that you're going to use more capability, there is no need to settle for an intermediate package.

**QUESTION:** *Why didn't that notion sell three years ago?*
**ESBER:** Because the power products really were unfriendly. Several years ago, the only way you could access dBase's power was through a dot prompt. The latest dBase product is the most user-friendly product we've ever had. Our intention is that users will grow with it to their maximum need or capability.

**QUESTION:** *What's the next thing after data bases?*
**ESBER:** Fortunately, in the data base arena, we can locate our mainframe and minicomputer brethren and there are lots of things that we can learn from them to advance our own products. I see several years of learning from their experiences as well as incorporating new technologies that emerge on personal computers. Lots of

applications are written on top of data bases. Ultimately, we provide truly relational data bases on departmental networks. Applications will be written on top of those.

**QUESTION:** *Do you think there will be an emphasis on applications rather than technology?*
**ESBER:** One can never ignore technology. If one gets too far behind, a window of opportunity will open up for a potential competitor. For the end user, that will work out kind of nice as a check and balance that will keep all of the standard products evolving.

## *'Beyond resource sharing, we believe that networks will be driven by needs for communications, sharing of models, files and data.'*

**QUESTION:** *Is there any chance that the leading products will be toppled by a newcomer? Can anything change in a business marketplace that's so huge?*
**ESBER:** I guess it's not quite like IBM and computers. But one could ask the same question: Is there ever a possibility of some upstart coming up with a computer that will topple IBM? I think it's highly unlikely. It's unlikely that one will topple Lotus in the spreadsheets, or Ashton-Tate in data bases, or Microsoft in operating systems. But that's not to say it can't be done. I wouldn't say to everybody out there who is trying to start a company: `Forget it, it can't happen'. I'd say the odds are getting worse for them.

**QUESTION:** *Where do you think laptop computers fit in the equation of business users and what they're doing?*
**ESBER:** I like laptop computers. I don't think that they'll succeed until they duplicate what we have on the desk and one can easily connect them to the desk machine. When I'm on a plane, I'd like to have a very lightweight portable that has a hard disk, battery life that's pretty long, a readable screen. I would also like to see media compatibility. When considering the matter of 3.5-inch versus 5.25-inch drives, it's important that if I buy software, I can use it on either machine. It's clear that ultimately most software will be in 3.5- inch format.

**QUESTION:** *Whether the personal computer user wants it or not?*
**ESBER:** That's right. Although, if the software is not copy-protected, presumably, users can get software in any formats that they want. Also, electronic distribution where one would have software transmitted to the hard disk makes the question of whether software is 3.5-inch format or 5.25 moot.

**QUESTION:** *Would it be possible to transmit software directly to a network in a department?*
**ESBER:** It is still a ways off, but yes it would require a corporation to pay the appropriate fee for their appropriate number of users. You download a version of that product and the company takes care of updating all of their users, and from that standpoint they know they have version control, they have user control and it becomes a good situation for both parties.

**QUESTION:** *Could an end-user also take that software home?*
**ESBER:** It's a big complicated issue revolving around the license agreements, copy protection, end-user rights, etc. Clearly, when you buy a record, you can use it on any of the stereos in your home. Or, you can tape it, which U.S. laws say is OK for your own use. Currently, the laws allow you to make a backup of software but it doesn't say that you can take that backup and use it on the second machine.

**QUESTION:** *Aren't these questions going to have to be resolved soon if networks and multiuser systems continue to be installed?*
**ESBER:** First of all, pricing issues need to be resolved. Also, user rights, software vendor rights, etc. Unfortunately, the U.S. legal system hasn't helped us much and I believe that the industry, as a whole, has not gotten together, nor am I convinced that U.S. laws allow us to sit down and talk. For instance, on pricing issues, it is clearly illegal for Mitch Kapor, Bill Gates and myself to sit down and have any discussion. Yet to solve some of these issues, as an industry, that would be required. Now you understand why we haven't sat down and solved some of these problems industry-wide.■