A MEDIUM-HARD LOOK AT SOFTER SOFTWARE

Last month we discussed the issue of control in artificial intelligence, a heavy-duty topic that will be the focus of much academic attention over the next few years. Here, we discuss the issue of control in real-live pc applications, a topic that will be of great pragmatic interest as a number of far-sighted vendors attempt to implement it in a useful and inobtrusive way. For appropriate control, software must have some means of acquiring knowledge about the user's specific world, rather than merely just a generic world such as the model implied by an accounting package. The trick is not to create all-new applications to meet some latent -- at best -- needs, but rather to improve existing applications, to make useful software also easy-to-use. As Bill Gates has called it, we need softer software. A few folks are thinking deeply about these issues: One is Gates, chairman of Microsoft; another is Daniel Cheifetz, president of Odesta (Northbrook, IL) and proud parent of the newly shipping Helix dbms; two more are Mitch Kapor of Lotus and Peter Gabel of Lotus spinoff Arity (RELease 1.0, Dec. 31).

Cheifetz and Gates are talking about different, complementary qualities in software. Gates's vision of softer software generates its own knowledge of the user by watching his actions; while Cheifetz's generally has a builder/user inform the software directly. Certain macro generators (programming-by-example) are a first approximation; they use the capability of a computer to learn by rote, mimicking the user's keystrokes exactly. Programming, of course, uses the computer's ability to do what it is told; Gates's softness uses its ability to watch the user and selectively, intelligently generalize from his actions. For example, in the following sequence, how has the user selected which letters to capitalize?

Then Tony sent Tim on his way. The next day Tim called back in a huff. "There's no way you'll get me off Dr. Trevelyan's case," he cried, "without an inquiry. That's final!"

Is he capitalizing all the T's that start a word? Then what about the D in "Dr."? And the two spaces after every period except the one after "Dr."? What explains those? With a larger sample (and a more serious problem), a smart (or soft) computer could probably figure out some elementary rules quite accurately. But while the rules of grammar are relatively fixed and consistent from user to user, the rules of spreadsheet handling -- which divisions to compare, what kind of performance problems to highlight,
which regions to consolidate and which individuals to send which reports to --

vary from company to company and from person to person. What we’re discussing is

more than report templates: The number of products may differ, the performance

problems may vary, new people may join the distribution list. Sales may be summed in row 94 one month, in row 96 the next.

Follow the user

How will Microsoft's softer software work? Currently, in most single-user systems

there's a tremendous amount of downtime, while the hungry processor is waiting for

your next tremulous keystroke in response to its own lightning-quick, interactive
displays. During this time it can easily record and sort your actions according
to a number of criteria. Using pattern-matching, it may determine what causes you to

behave in various ways. While the pattern-matching techniques are general, the

softer software will be application-specific. It will know what kinds of patterns to look for, and what kinds of responses to patterns to generate. In particular, the software can't work just at a low level, perceiving only row numbers or text blocks; it must recognize higher-level concepts such as labels, document types, distribution lists, tables, report types, query types, even certain phrases.

Armed with this knowledge, the software will start analyzing your actions and

proposing things to you -- report formats, distribution lists, menu items. It may compose messages: "Is this the format you'd like? Should this memo be sent to

Alice? Would you like to see a consolidation of Middle Europe sales by weapon
category?" It would also ask direct, general questions, as well as infer things from your actions: "Who gets the following sales reports?" or, "Do you wish to

add Juan to this routing list permanently, or this time only?"

Or it may simply take action, waiting for you to demur. Salary changes of more

than 10 percent for people without a certain last name (yours) cause you to

question Juan over in human resources; sales shortfalls of more than 15 percent
make you send a memo to Alice in sales. After a couple of poor weeks, it will

present you with a ready-made Dear-Alice memo. Once you cancel that memo a couple of times -- in reference to pc products -- it will take the hint: Sales have to

slump more than 50 percent in pc products to arouse concern. And so forth.

Lead the user

By contrast, Cheifetz's vision is of software that makes the user do more rather

than less. The builder/user actively imparts knowledge into the system, inculcating it with his own perspective, so that it will lead end-users to focus on issues he designates. The system would appear to be self-aware to the user who hadn't set it up. A user's reports would generate appropriate questions, for example. Data would be examined and the user prompted to find causes (whether fundamental issues or typos) for inconsistent data. A "watcher," much like the pattern-matcher of Gates's vision, would watch over the software's use and monitor what's going on. On an elementary level, for example, it would remember the

screen layout at power-down (as Lisa does). It might remember to solicit
responses to memos or follow-ups to requests, with a sort of meta-tickler-file.

Cheifetz's company Odesta (RELease 1.0, June 18) has built its Helix dbms/
application generator (for the Mac) with hooks for such a softness facility in a future release, to enable the builder/user to specify the kinds of relationships and situations he wants monitored. With all data centrally managed, for example, it would be easy to relate a sales slump to a change in the advertising budget as well as to salesforce size.

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If Gates's vision is management-by-example, Cheifetz's is management-by-exception, with the system prepped to react to out-of-line situations with a sort of real-time audit mechanism. The final result will be much like Trigger (RELease 1.0, November 13), but integrated tightly into an application built around Helix rather than requiring the entry of data from external sources.

Inform the user

We're also expecting softer software from Arity Corp. of Concord, MA, described in our December 31 issue. Arity, closer to product announcement (this autumn) than either Microsoft or Odesta (a year or two), is correspondingly less eager to talk about what it's doing, beyond saying that its software ("cooperative software") will control the intelligent application of information to the user's problems, using a "human" interface. Arity has just received a joint $1 million equity investment from Lotus and US Trust Capital Corp. of Boston for an undisclosed percentage of the company. (Lotus has the majority share.)

Debrief the user

The impetus for softer software comes not only from software developers, but also from users, who want their spreadsheets and reports to be more meaningful. We recently had a visit from Frank Millman of Millman Construction Co. in Miami Beach, FL, who is working on generalizing and commercializing a package (Tracker) that grew out of his efforts to manage his construction business. To Millman's mind, data collection as well as comparison is vital. It's easy enough to relate data to each other, but what data are needed, and how are they generated? Much of the success of Millman's (and other vendors') efforts will depend on the forms and templates he designs for specific vertical markets, addressing such issues as, How many hours does each salesman spend doing what? How many nails are used (and how many wasted) by each team? Millman is adamant that Tracker be a "back-office" product, with data supplied by real users, rather than what he considers to be front-office products focusing primarily on financial aggregates. Although that really depends on what data one gives the software rather than its fundamental design, Millman's concerns illuminate a central issue in softer software: To get it to work, we've got to tell it what's going on.

FeatherWare

All this softness may sound disappointingly ordinary, capable of being implemented on a current-generation PC (AT, anyway) with current pattern-recognition techniques and programming languages. It concerns patterns a smart secretary could pick up. And it shouldn't make the software feel very different. All it may do is come up with a suggested report format, or a distribution list, before you can ask for it. But if you're a new user, you might not have known what to ask for; if you're an old hand, it will save you time, or make sure you don't forget to carbon (vestige of an ancient practice) the appropriate guy in the auditing department who's already trying to catch you in a slip-up. Or it may show you some related data that you didn't even ask for. We're talking about marketable, useful products here, not high technology.

Sure, a good programmer could also make this happen, easily. But could he do it for hundreds of thousands of different customers with different peculiarities? Yes, but only with softer software.

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MacOFFICE

Never attribute your success to a fair world.
-- Juan

Never attribute your success to the wrong thing.
-- Alice

Last year Apple announced Macintosh at its annual meeting and found itself with a resounding (albeit currently sagging) success. This year, it intends to follow that act with another annual meeting announcement -- the Macintosh Office. However, the salient feature of last year's announcement wasn't its taking place at the annual meeting, but rather the simultaneity of announcement and shipment. That will be lacking this year. Current availabilities for the various products are as follows:

- LaserWriter: March 15
- AppleTalk: March 15
- Third-party file servers, Sunol, Lutzky-Baird, Micro Design: March
- Jazz: early April
- File server: late summer
- IBM link: late '85

And how do we delicately propound the notion that products aren't always delivered on schedule?

Computer comfort

The products when available will be everything one could have wished for. They perfectly address Apple's chosen market of small workgroups, whether in small companies or large; Macintosh Office fits comfortably into the environment and enhances it, easing communications both physical and mental among workgroup members. Inexpensive by itself, MacOffice also costs little in terms of installation and learning time, probably a bigger factor than dollar costs. Most significant of all, perhaps, is the no-muss, no-fuss character of AppleTalk ($50 per node): Just plug it in and let it work. The existence of AppleTalk lowers the effective cost of the LaserWriter (nominally $6995) by letting several computers use it directly. These products have been amply described elsewhere (the LaserWriter, developed in conjunction with Adobe Systems, in RELease 1.0, August 31). Nitpickers will pick at AppleTalk's 32-node limit and relatively slow speed (one fortieth of Ethernet's), but users will recognize that it's adequate to the task at hand (and akin to local disk accesses with the still annoyingly slow Mac).

Distinguished displays

At a time when the Wall Street Journal has redecorated its financial pages (as of January 1) for greater clarity and impact, and USA Today, the television-in-print newspaper, has won 1.3 million adherents, it's clear that print as a medium means a lot more than strings of text. Communications is not just wires and protocols; it's also layout and graphics, fonts and typesizes, text positioning and box borders. Consider page 9, a mockup of a recent RELease 1.0 cover remade according to some elementary design principles, with the help of a third-party product called PageMaker and of the LaserWriter. (Some text is repeated because it takes that much less space than in the original version.) Or consider the illustration on page 11, which expresses most of what's on page 10, and much more clearly. In fact, the two pages complement each other nicely. (For contrast, look at page 8,

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where we had to sacrifice subheads, boxes, and white space to squeeze in our text, although we did manage a boldface or two.) PageMaker or a similar product called MacPublisher (see page 8), together with the Macintosh and the LaserWriter, make clearer communications possible, and demonstrate the unique capabilities of MacOffice for all those producers of internal and external documents, newsletters, brochures, and nice-looking reports.

With this orientation, the Mac can be sold for its ability to perform functions that aren't possible on any other machine, rather than as an imitation PC. Macintosh Project, from Apple, and Filevision, from Telos of Santa Monica, CA (RELease 1.0, June 18), make enough use of Mac's graphics capabilities to be fundamentally different from -- and superior to -- their PC counterparts.

On the other hand, certain Macintosh software that is at last starting to appear will make the case for the Mac in the office simply by making standard functions more accessible. First of all there's Jazz. Jazz, as a single product that does most of what most people will want, and with the Lotus brand name, should sell well and enhance Mac's acceptability. While the PC equivalent, the power-product Symphony (also from Lotus), is less than a raging success, Jazz may be the perfect product for the Mac user, who performs a variety of functions in small doses but is neither a spreadsheet junkie, a word processing maniac, nor a data nut. (See page 10.) The Macintosh is supposed to be a multi-function jack of all trades, rather than a single-purpose appliance. Jazz addresses that latent market of incremental users who wouldn't have bought a pc without the Mac, because they had no single overriding function to justify such a purchase.

Then there's a likely follow-on to Multiplan from Microsoft which is likely to be to Jazz as 1-2-3 is to Symphony -- a less-ambitious but more focused product that performs a few functions well (and which might be better suited to the PC than to the Mac market). For applications developers within companies or for resale, there's (at last) Helix from Odesta of Northbrook, IL, an application generator/dbms along the lines of dBASE II/III, but easier to use and a beneficiary of Mac's graphics. (See page 1 and RELease 1.0, June 18).

Yes, but...

The MacOffice array of products -- or the components of its system, as Apple would term it -- certainly puts Apple into contention as a serious office automation supplier, but the company still lacks the salesforce and the presence that would enable it to compete with IBM on anything like an even footing. Its only hope is to infiltrate corporations as a guerrilla force, establishing beachheads in small workgroups that may spread.

Apple's challenge is to sell what Datapoint first offered in preliminary form -- distributed data processing -- years ago but wasn't clever enough to open up and propound as a standard. That same concept, implemented on pcs, still makes sense. Apple is now aiming at that tiny window between Datapoint's too-early and poorly marketed effort, and IBM's likely effective and overwhelming one.

Reports from certain large customers are encouraging; Apple is no longer routinely disqualified at many large corporations. Some big companies are at least considering its products, while in lots of corporations there are a few Macs here and there; they sprout like mushrooms, complain many old-line dp managers. Once sprouted, the Macs take hold nicely. While professionals at any particular task complain that the Mac isn't very powerful or fast, people whose time is too
valuable to waste on such scutwork appreciate the Mac's flexibility, friendliness, etc. It's a computer that lets them feel in control without knowing too much. As it gains capabilities in calendar management, electronic mail, filing, report/newsletter layout and the like, the Mac will become truly useful to a class of users ill-served by the traditional PC with its heavy-duty power functions. This user wants an apprentice, not an appliance. (Yet remember, all this will be available on the PC in due course.)

Dp managers find that Macintosh users need less training and can do more with it than people who tackle IBM PCs. Moreover, those users tend to do lots of things with their Macs, while PC users tend to apply them to a single task. In other words, the Macs are more easily integrated into people's total worklives, and improve productivity overall rather than task by task. And then there's that large contingent of corporate purchasers who appreciate a counterbalance to IBM's hegemony. Yet we still find that those large companies who order Macintishes are frequently those companies who order 100 of everything just out of curiosity. A pilot project does not a corporate commitment make.

But ever at our back we hear...

...software publishers talking of porting their Mac applications over to the IBM PC. The lure of IBM's huge installed base keeps them coming. Aldus, for example, is waiting only for the graphics situation to become clearer in order to move PageMaker over to the PC AT, on which machine it could handle documents several times longer than the 16 pages it's currently limited to on the Macintosh. Like Xerox before it, Apple is in danger of popularizing ideas that will then be more effectively marketed by others. We suspect that Apple may be another Datapoint or Xerox -- first with a new idea but incapable of exploiting it. Like Datapoint and Xerox, Apple has kept its technology proprietary far too long, and refused to connect with the mainstream world outside itself. All three companies are now working to coexist in the IBM environment. (As one wag points out, Apple's airing of its Lemmings ad last weekend is a little like Reagan talking about "evil empire" while his lieutenants are trying to make headway in the Geneva talks.)

The problem for Apple is that IBM too understands the need for connectivity. While IBM equipment may lack the friendliness of Apple's plug-it-in hardware and its visual-clarity approach, it has power on its side. Using DisplayWrite, etc., IBM's PCs can trade editable documents with the rest of a customer company. (Apple promises this capability for later this year.) IBM systems can download useful files, rather than merely act as dumb terminals in the fashion of MacTerminal. IBM's 36-on-a-desktop, coming soon, will enhance this message -- and this appeal -- more than ever. IBM's recent absorption of PC distribution into the National Distribution Division (see page 14) also reinforces this message. And finally, people who care about communications among workers -- by definition Apple's target market -- are precisely those who will be most hesitant to relinquish communications with the IBM community that pervades their organizations. Apple's promises of integration with IBM sound distant at best, vaporous at worse.

Strategy

Apple's system, when delivered, will fill a need customers must be convinced they have; Apple may have a tough time proving it. If Apple is to be a series of islands in the IBM ocean, will it be a healthy archipelago, or a Krakatoa? So much depends on Apple's execution of its campaign to crack large corporate
accounts. The company's stated aim is to make an impact at the top, the Fortune 10X, chiefly for the purpose of gaining credibility in what it sees as the much larger (and later-blooming) market of smaller businesses who will buy only those products that have the prestige of selling well into the country's top businesses. Just as IBM and other vendors gain cachet from low-margin large reference accounts and gain profits from smaller buyers, so will Apple forswear profits if it must in order to gain that vital foothold in corporate America. It may not have been necessary for Apple to succeed in corporate America in order to succeed with small business, but now that the company has made a visible attack on large business, it's necessary for that attack not to fail.

Does this strategy make sense? Indeed yes. Lotus, IBM, and a host of others have proved it. But can Apple carry it off at the same time that the Apple // is becoming more and more clearly a home and grade-school machine, despite a current glut of //cs? (Apricot's ads portraying the Apple as a "homebody" are sure to annoy Apple; see page 15.) Meanwhile, the Macintosh group's perceived focus on national accounts may alienate one of Apple's strongest bastions of support -- the dealers who have helped the company achieve its success so far. Many of these dealers are now setting up outside salesforces to call on corporate accounts, in an effort to capture what will generally prove to be low-margin business from customers who will shop for price and provide their own in-house support. (MacOffice, of course, will need less support than your typical collection of IBM equipment.)

Marketing assistance

Slowly, Apple is forging a number of "strategic alliances," this season's answer to the synergy of yore. Most visible is a resale agreement with GEISCO for workstations that will hook up to GE's mainframe-based Information Services network. Metaphor Computer Systems (RELease 1.0, September 11), which sells its 68000-based systems into the heart of IBM territory, has announced support for the LaserWriter and should provide a fine showcase for much of the MacOffice graphics capabilities as well as an environment into which Macs (also 68000-based, of course) should fit easily as lower-end workstations. All in all, Adobe/Apple have garnered support for their printer from a host of third parties including Microsoft, Lotus and high-end printer-maker QMS.

The story thus far...

Will Apple succeed? We fully expect the company to be around a couple of years from now, still fighting for a tenuous guerrilla footing on enemy turf. But that's a lot more than most companies will achieve. While Apple may never reap the full rewards of its innovativeness, it will continue to survive as long as it can continue to lead the marketplace and sell innovation while others are selling its past innovations as commodities.

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RELease 1.0, January 23, 1985
DISTRIBUTED PUBLISHING

Remember the guy who never realized he was respiring until someone told him so? In a similar vein, there are thousands of managers around who have no idea that they're engaged in publishing. Raising these people's consciousness will be the job of, among others, Aldus Corp. of Seattle, WA, and Boston Software Publishers of Boston, MA. Both have systems designed to work with the Macintosh and a Mac word-processor of your choice to do layout. The dummy RELease 1.0 cover opposite was created with PageMaker and a Mac. Unfortunately, with the Mac's current limitations, the systems can handle only 16 or 32 pages at a time, limiting their use to newsletters, brochures, etc., or to multi-section documents.

The goal is to convince everyone of the necessity of having nice-looking documents internally as well as externally. Those companies who do internal sales presentations with colored graphs and charts are the ideal marketplace; the rest of us... (We're reminded of the pamphlet Kodak sends to speakers discussing the importance of correct visuals with only a subtle sales pitch for Kodak's assistance in that regard.) Who needs prettiness when the text is all there? Yet what we once thought of handwritten memos -- cute or heartfelt, but distinctly unbusinesslike -- we will eventually think of typescript. Handwritten copy is hard to read; even typed copy is hard to figure: Which sections does the writer wish to emphasize? Which parts fit together? Which are digressions? (This page itself could use more clues, for example.) Such meanings may be subtle, but they are real. Most of us will soon become as adept at reading them as we are at understanding the "busters" circle or the use of the color red.

Aldus is a de facto spinoff from Atex, the newspaper publishing system house acquired by Kodak in 1981. Founded by Paul Brainerd, who ran Atex's Seattle plant and R&D operation, Aldus consists of four software engineers from that R&D group, plus a smattering of support (eight people in all). Brainerd is an old newspaper hand who worked with the Newspaper Systems Development Group in an abortive attempt to design a page layout system in the mid-Seventies. The group hired IBM to do the system design, and gave up several years and tens of millions later. Atex has since perfected the technology in its hundreds-of-thousands-of-dollars news layout system; Aldus is now offering a poor man's version on the Mac for $495. Aldus will sell mostly through the top cadre of Apple dealers, whom it will support and sell to directly. Shipments will start in the second quarter.

Boston Software's MacPublisher is even cheaper ($100) than PageMaker, and is targeted at the truly mass market, whereas Aldus is going after people who at least consider themselves professional at publishing, albeit internally. Designed by Bob and Holly Doyle of IXO fame (a handheld terminal, forerunner of the lap-tops), MacPublisher offers most of the functions of PageMaker, but more cumbersomely. Where PM allows you to select a piece of text from a list and move it directly onto the page, MP requires you to open it -- a slow process on the Mac -- before you can position it on the page. Where PM allows you to see two facing pages and set up alternating formats -- so that page numbers are always on the outside, for example -- MP lacks this facility. On the other hand, MP includes its own word-processor (or works with MacWrite or Word) and handles 32 pages at a time, while PM considers text editing a separate function (except for limited typo-correction facility). Following a small ad in the December MacWorld that drew 3000 responses, the Doyles tightened their relationship with former IXO distributor Ed Holcomb, who formed BSP to market MacPublisher -- originally created casually by the Doyles' teen-aged son. His plan is to market the product on a mass-market basis, using dealers as well as direct mail.

RELease 1.0, January 23, 1985
Site Me a Price...

EVERYWHERE WE TURN users are asking for site licensing, and vendors are sighing about it. It’s not that big an issue, except to people who are used to living by rigid price lists and discount schedules. Like any other contract, site licenses are negotiable, and it’s easy enough to specify limits to the “site.” Site licenses are merely a form of one-on-one discounting, just like special-bid contracts vendors are used to making with distributors or large chains. [The only real issue is implementation; see next page.]

Yes, the advent of site-licensing is inexorable, but everyone is delaying it as long as possible. Talk to any right-thinking software vendor, and he’ll assure you that he sells only through dealers, now and forever. And for the moment at least, micro software companies are catering to dealers.

But fundamental laws of economics militate against this situation. Vendors promote directly to large accounts, and they support them directly. Often the presence of the dealer who collects the commission is simply a formality [although frequently it isn’t]. In cases like these, there’s no justification for the retailer to receive his cut, except for a sort of reverse featherbedding. Long run, there’s just no way this practice can prevail—although pity the first poor soul who attempts to change it. Even industry leader Lotus has bowed to dealer pressure and handed all its corporate accounts over to dealers, as have Samna, Ashton-Tate and MultiMate. The only organization powerful enough to resist successfully—beyond some mainframe carpet baggers such as Cullinet and [unsuccessfully] MSA—is IBM.

Get any of these vendors behind closed doors and they’ll readily just don’t ask them to make it happen. The other guy can lead the charge.

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APPROPRIATE INTEGRATION

The British have the term "appropriate technology" for the concept -- an extension of small-is-beautiful -- that certain technologies fit certain functions. It includes such noble things as solar energy, wood-burning stoves, bicycles, natural fertilizer, fishing rods, open windows. The basic idea is: Don't overpower your problem; solve it.

The concept of appropriate integration is similar: Certain functions belong together naturally, and work well to solve various complex problems. Other functions just don't, from the computer-cum-coffee-maker to the spreadsheet-cum-word processor. As it happens, many functions can work together with one other nicely, but generally three's a crowd. The diagram opposite -- courtesy of our Macintosh and the LaserWriter (speaking of appropriate integration) -- illustrates the concept, and some implementations of it. Certain of these appropriately integrated functions are embodied in some of the better software around, as shown; others are vacuums waiting to be filled.

Deep vs. broad integration

An appropriately integrated product could properly be described as deep; a couple of functions work together to address a single problem, such as wp-plus-spelling-checker, or spreadsheet-with-graphs. (Indeed, some standalone packages such as spellcheckers or the Graf ix Partner from Brightbill-Roberts (Syracuse, NY) exist primarily to be integrated with other functions, and work well as third partners.) The other kind of integration is broad; it solves a variety of problems, and most likely none of them too well. Modular integration, as in the pfs line or the combinations of packages encouraged by integrators such as TopView, lets the user decide which packages he needs, and link them together as he wishes.

Multi-function vs. integrated

And then there's multi-function integration, embodied in products such as Borland International's Sidekick and Software Arts' Spotlight (RELease 1.0, October 9), and the newly announced and cleverly named Higgins from Conetic Systems of San Leandro, CA. These aren't tightly integrated packages but rather collections of separate functions that (sometimes) can trade data. While appropriately integrated software is deep and tightly focused, designed for a "power" writer or spreadsheet junkie, the multi-function packages are also appropriate, but for the power person, who has so much power he hires others to do his in-depth tasks and rather needs a broad array of shallow functions -- time management, memos, mail, expense accounts, etc.

The brief list below of typical users and their needs indicates why the manager needs a multi-function package (or an integrator such as TopView):

- spreadsheet junkie  -- ss
- word nut  -- wp
- accounts, personnel manager  -- dbms
- people manager  -- list management, project management, memos, mail, expense accounts, tickler file, calendar etc.

Note that the illustration opposite is meant as a thought provoker, not a final vision of the world.

RELease 1.0, January 23, 1985
Appropriate Integration

As shown, generic functions can be integrated differently to produce a variety of appropriately integrated packages. Specific products are indicated by underlining.

Produced on the LaserWriter.

Release 1.0, January 23, 1985
PARTY

Networks are like mayonnaise, we once said; they should be invisible and subtly make things work together better. The ideal network probably won't make anybody much money, since its value lies in its inobtrusiveness. The smarter network vendors realize they've got to make their money some other way -- notably with the hardware and software that uses the network. This line of thinking explains 3Com's recent creation of a software division (headed by company founder and Ethernet creator Bob Metcalfe) as well as its introduction of the 3Server, a $7495, 36MB, 80186-based floppy-less network server optimized for that role. In competition with PC ATs or Mac-controlled hard disks, the 3Server looks cheap and functional. Indeed, 3Com is already getting reorders from the 30 units shipped since early December, and will start volume shipments this month.

The 3Server takes its name not just from 3Com, but for its support of three protocols -- 3Com's own favorite, Ethernet; IBM's token ring, which 3Com is currently betting on rather than the PC Network; and AppleTalk, available this spring. (Others will be added as appropriate.) Although the 3Server won't provide genuine interconnection between Apple and IBM equipment, it will allow them to share text files (including PostScript files for the LaserWriter) and exchange mail. Another "3" is its three services: data storage, printer sharing, and communications to SNA environments and remote sites.

The 3Server is just one of what we expect to be a burgeoning market of network servers as the network/workgroup concept takes hold. Apple is fostering this concept with MacOffice. IBM is fostering it with a large installed base of PCs that are ripe to be connected and to share expensive resources such as the 3Server and attached storage, printer and communications facilities. Metaphor Computer Systems was founded around this concept. Britton-Lee of Los Gatos, CA, sells higher-end dbms back-ends that now serve workgroups as well as mainframes. And in our recent discussion of Sun Microsystems (December 31) we talked about the advent of networked computing, in which a group of computers and users shares resources and data, and its users work closely together. Sun has recently made the smart move of licensing its protocol- and transmission-technology-independent Network File System to Gould and Pyramid Technology for their systems, in an effort to encourage a standard for heterogeneous networks. The 3Server currently uses its own file management system, EtherShare 2.4, but its 3.1 version, available soon, will match PC-DOS 3.1 from IBM.

Beyond that, we expect to see 3Com's software group come up with multi-server file management, which will support the use of distributed files in a way transparent to users. Meanwhile, Metcalfe has recently been espousing CCITT X.400, a proposed standard for mail exchange that he asserts could be as significant for message communications as Ethernet is for physical networks. 3Com will likely use this also as the basis of its own product, which would include a multi-user calendar and the distributed file system -- what we call ABC, for mAil, dBms, Calendar.

At a time when dealers are complaining about IBM's laxness in controlling the grey market and the proliferation of third-tier dealers, 3Com is trying an interesting experiment in distribution by reducing the number of its dealers, on whom it relies for distribution (except for a few OEMs such as HP and Zenith, and VARs). From a high of 600, the pared-down corps of 450 full-support dealers will test the proposition that limited distribution leads to high margins which lead to strong support which leads to high sales and high margins which lead... We hope it works, and gains attention.

RELease 1.0, January 23, 1985
One of the most hotly debated numbers in the pc industry has been the size of the copied-software market. However unmeasurable, it is at least a tangible number. More mysterious still is the amount of lost revenues -- how much software users would buy if they didn't copy. For that number, you have to strip out people who copy because it's simpler than legal sharing, to say nothing of those who would simply do without, or settle for their old VisiCalc rather than upgrade to 1-2-3.

Future Computing (Dallas, TX) has now come out with both those numbers for the US market, and despite their vagueness (due to vendors' own lack of data) we're inclined to accept them: On average, each legitimate piece of business software spawns one illegitimate copy. About one in four of such purloined packages represents a lost sale.

Yet the Future Computing data are maddeningly incomplete and very macro: The study simply compares how many copies users say they have (adjusted for multiple users of single copies) with how many copies vendors say they have sold, for 12 business packages. Exact numbers are unavailable (because of vendors' paranoia about releasing installed base figures), but it seems clear that more popular software gets copied more, and that small-business software (dBASE II and accounting) gets copied more. But there are other factors involved, namely the presence or absence of copy protection, and distribution of backup copies (which are counted as illegitimate if used by anyone other than the owner of the primary copy). And as noted in our issue of June 18, there are lots of other fine points of legitimacy concerning simultaneous use by nonowners (what about loaned backup copies?), use at home on second machines, and so forth.

But back to the news: One of every two copies is illegitimate, and approximately one in four illegitimate copies represents a lost sale. That will amount to about $800 million in lost revenues this year, FC estimates. Some of those revenues, if recaptured, would accrue to software vendors; some would serve to lower prices. And, of course, the rich get richer: Lotus, which is spearheading the move for hardware-based software protection with the assistance of ADAPSO, stands to recapture revenues in proportion to its market leadership. Of course, Lotus as spearhead has more or less resigned itself to having to subsidize the hardware purchase, which will probably cost on the order of $10 to Lotus ($25 at retail), or well under the amount of revenues it could theoretically recapture (one-quarter of wholesale, or very roughly $50 per copy).

Physical deterrence

At the press conference announcing Future Computing's figures, sponsor ADAPSO distributed copies of its "Software Authorization Overview" white paper (available from ADAPSO, the Association of Data Processing Service Organizations, reference: SASDP, 1300 North 17th Street, Arlington, VA 22209; telephone: (703) 522-5055). Note that this exposure draft proposes merely a least-common-denominator standard around which a variety of products, using a variety of software algorithms, could be built; no one is being forced to do or use anything. The goal is to develop a system that is inobtrusive: It will allow simultaneous use of several packages (important in the coming age of multi-tasking), storage of them on a hard disk or network server, and the creation of archival copies. Users will be able to move their protection device easily from machine to machine.

This concept, discussed more fully in our issue of June 18, has been refined and

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is gaining momentum, although we still have doubts as to its efficacy. We'd prefer to see large-scale site-licensing and annual maintenance agreements such as prevail in the mainframe software business as a means of compensating software vendors for their efforts and funding their future products. Lotus argues that the very existence of hardware protection will make site-licensing more policeable and therefore more attractive, but we think this is a temporary issue. Long run, the value-added won't be in the disks anyway, but in the support and the updates.

Visible deterrence

Along with the items above, ADAPSO announced a joint lawsuit with MicroPro International against Wilson Jones, a subsidiary of American Brands (Chef Boy-Ardee ravioli, etc.), which was allegedly using copied MicroPro software in training seminars and sending customers back to their offices with their own copies of the software. This is arguably worse than previous culprits, who were only saving costs, not generating revenues, with the illegitimate goods. Monetary damages in the case are irrelevant, compared with the hoped-for deterrence, both by educating people on the illegality of copying software through the free publicity, and by making them nervous of the consequences if they do so.

* * * * * *

BYE BYE BOCA: PC distribution moves north

The absorption of the IBM PC by the rest of the IBM Corporation continues apace with the recent announcement that IBM's retail dealers will henceforth be managed out of the National Distribution Division rather than by the Entry Systems Division (a.k.a. "Boca"). ESD now becomes simply a product division -- development and production -- along with a marketing function; sales and distribution of the product have been captured by the mainstream organization. On the one hand, this move will help to reduce channel conflict, whereby different resellers competed for the same customer with the same product; on the other, it may increase product conflict, whereby the same channels carry different but competitively positioned products, by broadening the lines at least some dealers are authorized to carry.

IBM remains a divided company, still unsure whether it's a marketing organization trying to provide just a little less than the market wants, at a premium; or a low-cost producer, attempting to produce all it can at the lowest cost, and driving out higher-cost products.

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Upstaging Apple

Apricot Inc., the US distribution arm for UK-based ACT's Apricot computers, staged a carefully timed press conference to introduce itself just the day before Apple's MacOffice unveiling. Wisely eschewing the folly of taking on IBM, ACT is instead taking on Apple, going after its dealers and thence after its customers. Indeed, ACT has signed up NAMRA (for North American Manufacturers' Representatives Association), the loose consortium of reps dropped by Apple last summer, and is concentrating on dealer sales. Apricot's pitch, underdoggism combined with cost-effectiveness and a slick machine, is calculated to appeal to small businesses -- both the dealers themselves and their customers. With a $4 million ad budget for the next four months and strong dealer support from NAMRA, Apricot should make some headway in the US market, although it will never gain the primacy here it has won in the UK marketplace. (As Apricot points out, it needs to convert only about one in 40 Mac buyers to make its year's plan of 15,000 units.)

Apricot is the most significant business (as opposed to home) machine to use Digital Research's Graphics Environment Manager, a Mac-like interface that sits on top of MS-DOS and other non-Mac machines. Apricot and GEM must work hard to reinforce each other, because GEM runs the risk of being perceived as a home environment, given its appearance on the new Atari line of home computers. However, Apricot undercut GEM's appeal in its press conference with endorsements from Software Publishing (the pfs line), Ashton-Tate (dBASE III and Framework) and Microsoft (networks), since all of them are porting their software directly to the Apricot line, without GEM as intermediary.

Salvaging MSA

Corporate Software of Waltham, MA, has just acquired the most promising part of MSA's micro software business -- the part that wasn't even definitely for sale. The rest still languishes in "talks," with the price continuing to sag down from MSA's original double-digit-million hopes. Corporate Software, which supports and brand-name pc software to large accounts, has acquired MSA's micro distribution division, which did the same nationwide from its Santa Monica, CA, base. MSA was a little heavier on the sales and lighter on the support than was Corporate Software -- but there's no point in buying something if you can't improve on it. While software stores don't make much sense -- volume is too small to support the inventories, product knowledge, and service required -- this kind of consulting operation with sales as a by-product performs a useful role. Whether CS continues to sell software or in the future merely acts as a clearing house for electronic ordering and delivery matters little; its value-added is in the product knowledge and support it provides.

Say it ain't so, Joe...

Reflex, which we discussed in our issue of November 13, has been delayed, and should be shipped in April, rather than in January as originally scheduled. We still like the product, we commend the company's candor, and we wish announcements like this weren't so common.
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