MICROCOMPUTING

MICRO BITS

Michael Alexander

Promote or perish

End users and information center managers are uneasy allies at best, probably because quite a few managers of this type believe that the rising influence of end-user computing has come at the expense of the information center.

To a large extent, that's true. In companies in which end-user computing is well entrenched, employees buy personal computers without guidance from MIS, set standards, train and support each other and write applications.

But does the growth of end-user computing signal the decline of the information center? Not necessarily, although information center managers will need to find new ways to get along with end users.

End users will not go to an information center if they think the people there cannot deliver the goods. If the center grudgingly doles out support services, end users may feel they are not getting adequate assistance. Without repeat business, no one is in business for long.

The best product in the world is worthless if you can't get anybody to buy it. Promote

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End users in charge

Lightening the information center's burden

BY MICHAEL ALEXANDER
CW STAFF

When information center managers at UNUM Life Insurance Co. in Portland, Maine, were looking for ways to save money, they asked their end users to help themselves.

"We had too many resources tied up supporting end users," said Don Caton, UNUM's manager of personal computer technology.

By relying on end-user groups to take on more of the training and support duties, the company was able to consolidate five decentralized information centers into one "PC Technology Area" and simultaneously reduce information center support personnel from 60 to six employees.

"We took a 'before' picture for a cost study, but the program is not completed, so we don't have the 'after' picture yet. But I would guess that the savings have been one half or better," Caton said.

The prospect of realizing dramatic cost savings from downsizing the information center is certainly incentive enough for a corporation to establish at least one end-user group. However, there are several other benefits that can be realized by information center management.

Two end-user groups at UNUM, for example, also help the information center with the often tricky job of implementing new technology and provide feedback to information center management about each depart-

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Glut means 286 bargains

BY JULIE PITTA
CW STAFF

Corporate buyers are getting better deals on Intel Corp. 80286-based systems as these personal computers glut the market.

"Suppliers are much more willing to deal," said Phil Gordon, manager of office systems at Charles Schwab & Co. in San Francisco. "We're not having to do too much to force prices down. The competition between retailers and hardware vendors for business is doing it for us."

Like many MIS departments, Charles Schwab is standardizing on 286s. "It's about all we're buying," Gordon says. In recent months, discounts on 286s have

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Inside

MCA vs. EISA: Shedding light on heated debate

ANALYSIS

BY WILLIAM BRANDEL and DOUGLAS BARNEY
CW STAFF

It is rare that arguments over subtle distinctions become virulent, but that is exactly what has happened with the debate between IBM and its personal computer competitors.

The battleground is the confusing world of advanced PC buses. The issues being debated delve into the intricacies of bus mastering as well as edge-triggered vs. level-sensitive interrupts. Dig deeper, and it gets even more esoteric.

The well-documented combatants are IBM and the Extended Industry Standard Architecture (EISA) group, led by Compaq Computer Corp. along with eight top PC cloners. Fanning the flames, each group has attacked the so-called technical shortcomings and market bungling of the other.

Reduced to its essentials, the EISA group's claim is that IBM has tried to shove an incompatible and useless bus down the throats of unwilling customers everywhere. According to IBM, the EISA bus mimics Micro Channel Architecture (MCA), validates the IBM position, but in the end fails to match the technical prowess of the IBM version.

With the exception of backwards compatibility to the IBM Personal Computer AT, the EISA proposal looks remarkably

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Head-to-head

IBM and its competitors agree on most technical aspects of the bus architecture but differ on the merits of AT bus compatibility

	Micro Channel Architecture	Extended Industry Standard Architecture
32-bit address	Yes	Yes
Supports burst-mode direct memory access	Yes	Yes
Supports multiple processors	Yes	Yes
Multidevice arbitration	Yes	Yes
Eliminates need for DIP switches	Yes	Yes
Supports AT bus boards	No	Yes
Availability	April 1987	Late 1989

CW CHART: JOHN YORK

MCA-EISA

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similar to MCA. "The distinctions are pretty subtle," said Rich Bader, general manager of Intel Corp.'s Personal Computer Enhancement Operation, a group that develops PC board products.

Both buses eliminate annoying DIP switches during board installation and support 32-bit data transfer. In addition, each camp supports multiple processors, a technique called bus mastering. This allows separate processors to take over the bus and simultaneously access memory and disk. So at this fundamental level, the two adversaries agree.

When arguments over technical minutia are put aside, it all boils down to positioning.

IBM says it introduced the Personal System/2 with its MCA to set the stage for a new style of computing in which users will do several things at once and communicate with a wide variety of devices while micro-based servers proliferate.

But first, a new bus was needed, IBM said. And the bus it introduced, MCA, was viewed as closed and proprietary to IBM. This drew howls from its competitors, who used IBM's more open AT bus to steal gobs of market share away from IBM. In fact, the EISA coalition has chosen to rename the AT bus it has cloned to Industry Standard Architecture, or ISA.

IBM's competitors have complained that MCA is unnecessary for single-user machines and that IBM's pro-MCA argument is a nonissue. IBM disagrees and points to an approach called "level-sensitive interrupts" as a potential boon for users. Level-sensitive interrupts replace the so-called edge-triggered interrupts used in the PC AT bus. Simply put, with edge-triggered interrupts, the system essentially handles requests from software and hardware as they occur.

LAN pitching

Because Compaq believes that advanced buses such as MCA and EISA are "useless" for single-user computing, the firm is pitching EISA for $10,000-to-$15,000 departmental and local-area network server systems. It is in these applications alone that advanced buses are required, Compaq said.

There is one outstanding technical difference between EISA and MCA upon which Compaq places great emphasis: EISA will reportedly protect the corporate user's investment in AT bus-compatible add-in hardware. Naturally, IBM has a completely different view of the EISA bus. Chet Heath, senior engineer in the Entry Systems Division and the man widely viewed as the father of MCA, says that EISA simply will not work.

Compaq confidently contends that users can mix yesterday's old modem, graphics cards and networking with tomorrow's coprocessing and bus-mastering cards specifically designed for EISA.

Perhaps, counters IBM's Heath, if you want to roast hot dogs with it. The implications of interrupt-sharing between edge-triggered (AT-compatible) and level-sensitive (32-bit address) devices will eventually lead to disaster, Heath said.

In other words, users who mix old PC AT cards with ones developed specifically for EISA are following a recipe for disaster. "What the user would see is the two devices getting very hot," Heath said. "Eventually, one would burn out. And that's what we call a silicon barbecue."

Compaq's Stimac concedes that Heath is theoretically correct but argues that EISA has taken pains to ensure that the bus cookout never ignites. New EISA boards tell the system how it will generate interrupts and how it will work with other products. Also, existing boards, when installed, go through a configuration utility that provides the same protection, Stimac said.

The bottom line for Heath is that IBM has a massive head start. "We've had for 21 months what the other guys will have 21 months from now," he said.

That doesn't faze Compaq, which points to EISA's support of today's cards and its claims that board makers are working on advanced boards [CW, Jan. 30, 1988]. This combination will let EISA catch up with MCA, Compaq claims.

It is likely that these opposing forces will continue to squabble over petty differences between buses. But like any marketplace wars, customers will ultimately choose the winner.

Barney

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Many avoid these tribulations by dealing directly with competent vendors. Others seek out and hang onto top-notch dealers. But in just about every case, corporations set up their own dealer-type operations to help end users select and set up products, troubleshoot installed systems and answer technical questions that range from dull to sublime. That is a lot easier than explaining to a dealer what a graphics card is and why it doesn't work.

This problem is going to get a lot worse. There are these things called networks and workstations and OS/2 to worry about. Most dealers will be dumbfounded by this stuff, and MIS will say what it usually says: "Just give me 30 points off and hand me the box."

Hope for EISA. EISA, which is short for Extended Industry Standard Architecture and long on promises, has a saving grace. Compaq, the ringleader of the group, is one of three companies that have access to OS/2 source code. The other two, as you may have guessed, are co-developers IBM and Microsoft.

We're not sure how IBM or the other EISA members feel about this, but we know Compaq is happy. Compaq can work at a very detailed level to ensure that OS/2 embraces the EISA bus' way of supporting multiple processors.

New Mac semiclone. Nobody has fully cloned the Macintosh yet. Several companies such as Phoenix Technologies could do it if someone gave them the proper millions; so far, none has stepped forward.

Atari, however, already has a Mac semiclone that requires users to buy Apple read-only memory. But the 68000 processor in the Atari box doesn't give Mac software much ooomph. On the way, however, is an Atari 68030 box with Mac ROMs in plentiful supply from a third party. This speedy, cheap compatible may be just what Mac users have been waiting for.

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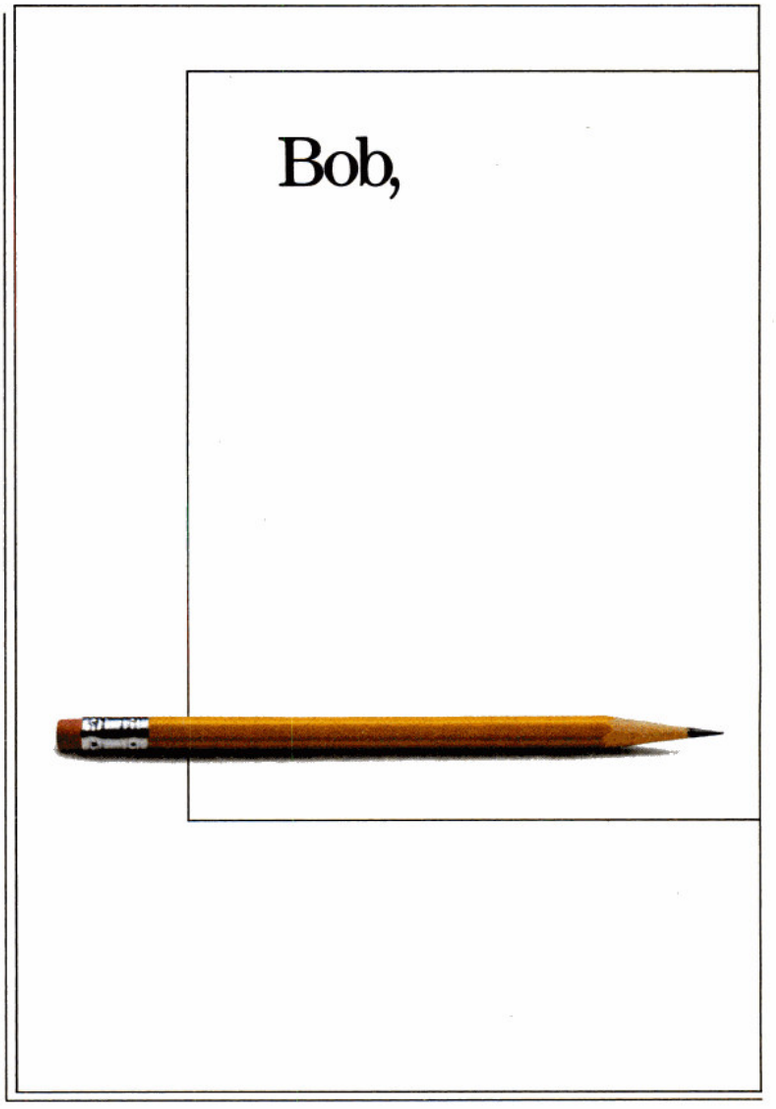

286 bargains

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increased to 35% from a usual 30%, he noted.

Tom Egan, a vice-president at Wells Fargo Bank, said his organization has made the decision to purchase more fully featured 286-based systems. Like Charles Schwab, Wells Fargo is standardizing on 286 technology.

"We're getting more for less," he explained. "We're forcing better deals," a phenomenon he said he took note of only a couple of months ago.

Make your deal now

Bill Lempesis, a PC industry analyst at Dataquest, Inc. in San Jose, Calif., said the first half of this year will be a prime time for users looking for good deals on 286s. An average 286 system is currently selling for about $2,000. Lempesis said he expects prices to drop between $1,000 and $1,500 in the next few months.

About 5.7 million 286-based systems were shipped worldwide last year, Dataquest reported. That figure is expected to climb to 6.5 million this year, according to Dataquest's projections.

Better prices are the result of oversupply. In the beginning, the 286 market attracted clone makers because it offered better margins. As more vendors jumped into the 286 market, users have been the big winners. They have a choice among suppliers who are willing to deal to get their business.

An ease in the scarcity of memory components has also contributed to price reductions, according to Lempesis. "DRAM prices are going down to a certain extent," he said. "But they're not back to where they were before the shortage."

However, the oversupply of 286s has forced vendors to drop prices to compete, despite the higher price of memory. Clone makers such as Wyse Technology are feeling the pressure. Wyse recently reported its first operating loss and blamed its stumble on a failure to drop prices quickly enough to fuel demand in an increasingly competitive market.

Wyse conceded that it has a significant inventory of 286 systems.

Marginal returns

"We're going to continue to see downward pressure on pricing," Lempesis said. "There's an awful lot of competition in the marketplace. Margins will be under pressure."

Vendors are expected to place a greater emphasis on Intel 80386 technology by year's end in a search for better margins. They may find many users unreceptive unless prices for 386 systems drop significantly.

Gordon said Charles Schwab will stick with 286 technology until prices for 386-based systems begin to fall. "It doesn't make sense economically for us to migrate up," Gordon explained. "The price differential between what we're able to get a 286 for right now and a 386 is too great."