IBM Eyes Many Sources for PM Interface

BY ALICE LA PLANTE AND ED SCANNELL

LAS VEGAS — IBM is committed to giving future versions of Presentation Manager the best features from all available graphics and windowing technologies and will likely use techniques from X Window, Next Step, and Display Postscript, IBM officials said last week.

For users, the end result could be the most comprehensive and sophisticated interface the industry could produce en masse.

And since Presentation Manager is the cornerstone of IBM's SAA strategy, this has implications for virtually all computing platforms, from PCs through mainframes.

Adobe Systems Inc.'s Display Postscript, Steve Jobs' Next Step, Unix-based public-domain X Window, and Hewlett-Packard's New Wave, as well as technology from Metaphor, Microsoft, and IBM are all **See IBM, Page 85**

Compaq's Rod Canion (left) squared off against IBM's Bill Lowe in the EISA/MCA battle for the loyalty of developers and users.

IBM Promises to Clarify Its MCA Licensing Policy

No Royalties Until PS/2 Patents Are in Hand

BY ALICE LAPLANTE AND ED SCANNELL

LAS VEGAS — IBM will release a "white paper" within the next two weeks that will clarify its Micro Channel Architecture (MCA) licensing policy, revealing, among other things, that it will not collect any royalties on PS/2-related patents until it has such patents in hand — something that could take as long as two to four years.

"Until patents are issued, no patent royalties will be collected, although we are now signing up [vendors] for licensing agreements," said Bill Lowe, president of IBM's entry systems division.

Lowe also said that IBM will refuse to recognize EISA as an organization and will only deal with member companies on an individual basis.

"We do not consider EISA a legal entity," Lowe said.

It is this prospect that could eventually hurt the EISA coalition the most, according to attorney Richard Bernacchi of Los Angeles, who specializes in computer law.

"This would make it much harder for the group to get IBM to agree to terms that would enable them to create a standard to freely make available to others," Bernacchi said. "If IBM only negotiates with individual members — which could be a **See MCA, Page 8**

Shoot-Out on the Strip: IBM, EISA Group Clash

EISA Members Call MCA Proprietary, Limited

BY THE INFOWORLD STAFF

LAS VEGAS — EISA members at fall Comdex attempted to spread fear, uncertainty, and doubt about IBM's Micro Channel Architecture (MCA), but IBM succeeded in seizing the initiative away from them.

Through standing-room-only conference sessions, Gang of Nine members did their best to convince dealers, board makers, and corporate buyers to wait for EISA machines due to MCA's proprietary nature and performance capabilities they said will compare unfavorably with their solutions.

Well-prepared for the battle, Big Blue counterattacked with a

"Wall of Cards" exhibit showing approximately 500 cards currently available for the MCA and, more important, gave "technology demonstrations" of a raft of coprocessing subsystems that showed off the MCA's most touted capabilities. (See related story, Page 8.)

The next year represents a window of extreme vulnerability for the EISA (Extended Industry Standard Architecture) group, since systems won't be shipping until next year's third quarter. In the meantime, IBM is preparing to seed the market with MCA machines and peripherals. According to IBM, 1,500,000 MCA systems have shipped, and **See EISA, Page 85**

Intel to Provide 486 XA Family of Chips, Software

BY MARTIN MARSHALL AND ALICE LAPLANTE

LAS VEGAS — An Intel senior executive last week at Comdex provided a glimpse of the computing environment promised by what he called the 486 Extended Architecture (XA), a family of chips and associated software that will be available next year and that will represent the best of both RISC technology and the Intel 8088/86-family architecture.

Calling it the 486 Extended Architecture chip, Intel vice president David House said the chip will be announced and

Intel's David House called the 80486 Extended Architecture "the best of both worlds."

delivered in 1989. "The 486 XA is a complete family of chips as well as software supporting that family," he said.

"It would be the best of both **See 486, Page 85**

Users Discover Scanner's Potential as Business Tool

BY BOB PONTING AND ROBERTA FURGER

The wealth of scanner products at this year's Comdex underscored a major change in the market from a few years ago, when scanners were high-priced and not designed to meet the needs of business users.

This year, however, there was a wide range of new text and graphics scanners that impressed users and dealers.

"The people we're talking to this year are much more sophis-

ticated than those who visited our booth last year," said John Kozlowski, director of marketing at Microtek Lab Inc. "Last year they were asking what scanners were. This year they're asking how many shades of gray the scanner supports and what the resolution is."

Much of the interest in scanners is generated by desktop publishing programs, which require gray-scale scanners, image editing software, and a way to print the gray-scale **See Scanners, Page 85**
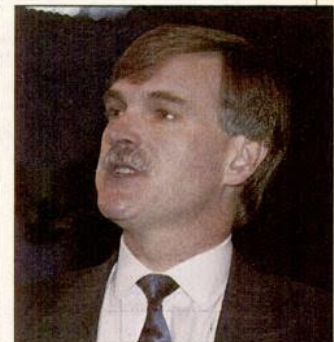
AT DEADLINE

Unix PM Scheduled for 2nd Quarter

Microsoft Corp. and Hewlett-Packard Co. formally unveiled their three-stage strategy for porting Presentation Manager to Unix at Comdex last week. The first stage, implemented by HP using technology licensed from Microsoft, is the Common X Interface, which provides a PM-work-alike window system with a 3-D look, a developers' style guide, and a programmers' toolkit.

The toolkit and style guide are available now. The window manager will be released in the second quarter next year.

The second step, called PM/X, will port the PM application program interfaces to Unix, making it easier for developers to move programs between Unix and OS/2. PM/X applications will coexist with the X Window system but will not be network-operable. The last stage will provide network operability under PM/X. Pricing and availability for PM/X will be announced in the second half of 1989.

The companies also announced that the Santa **Continued on Page 3**

EISA

MCA identification numbers have now been requested for over 1,700 cards, 140 of which are bus master cards.

"It makes no sense to compare a proposed specification with an implementation already on the market," said Chet Heath, IBM's senior designer of the MCA, who said that many technical issues and problems involved in bringing a new architecture to market are "not apparent" in the design phase.

"It's a matter of control. To gain control over their destiny is what EISA is all about," said a top executive from a leading chip company.

Compaq Computer Corp. president Rod Canion said the EISA consortium is the most logical way of getting users to accept new technology. "More than 100 companies are supporting EISA. It is an open door to show the way to the future," Canion said.

EISA members charged Micro Channel with being a propri-

Enzo Torresi of Businessland Inc. believes there is no room for EISA as a 32-bit standard.

etary IBM architecture rather than an open standard. "EISA is designed to meet departmental computing needs; MCA is targeted for account and customer control," said Gary Stimac of Compaq. "Open standards benefit customers — proprietary solutions benefit vendors."

Micro Channel also came under attack from EISA members on performance issues. "The bus limitations are so severe that Micro Channel products introduced in 1987 are incapable of living up to the claims of multiprocessing," said Andy Czernek, vice president of marketing for Zenith Data Systems in a position paper. "Their slow bus I/O cycle times make them incapable of even supporting cache memory, necessary in high-speed 80386 and even some 80286 designs."

Despite the indictment of MCA's performance, one factor working against EISA is that its full specifications are not even available. Consortium members are asking users to make a leap of faith that their machines will do everything IBM's MCA machines will do and more.

Consortium members insist that the specification is functionally complete and that their systems will be delivered by the end of next year. "We have all agreed on the spec, and it will be available shortly," said Gary Stimac, Compaq Computer Corp.'s vice president of engineering. Stimac said the consortium has agreed on the design of the I/O bus but has agreed to disagree on processor and memory subsystem designs.

Representatives of the dealer channel will be concerned about potential buyer confusion until

EISA delivers the goods. Enzo Torresi, vice chairman of Businessland Inc., believes there's no room for EISA as a 32-bit standard. "I'm sure that the market can't support both," he added.

Torresi says it's too early to say whether EISA will be successful. "I'm against a market result being accomplished through a questionable or a premature announcement."

Alan Hald, Chairman of Microage Computer Stores, is less critical of EISA but has reservations about what the debate could mean for buyers. "The positive aspect of multiple 386-based standards is that for the first time there are choices to be made," Hald said. "The negative side of it," he added, "is that vendors may decide to compete in a way that brings a lot of fear, uncertainty and doubt in the marketplace."

Alan Hald of Microage thinks multiple standards may bring fear into the marketplace.

Many PC professionals seemed unconcerned about the possibility of having two 32-bit standards. "I don't care what's inside the box; I care about what we can do with the product," said R. Bruce Johnson, manager of the PC Resource center at Deloitte Haskins and Sells.

"In the ideal world, there would be one architecture, with companies competing on the basis of service and support," said Brian Livingston, chairman of the 486 Standardization Committee, a group of PC professionals formed to provide buyer input into the next generation of computers. "But we don't live in the ideal world. There's no accounting for taste."

A number of board vendors said that Micro Channel sales now constitute a significant market for them. "It's still too early to determine how EISA is going to do," said Dan Lucarini, director of marketing for Tecmar Inc., who noted that MCA boards account for 20 percent of the company's revenues now, compared to zero last year. "IBM will make the MCA a standard just by the sheer force of being IBM," Lucarini said.

Six members of the Gang of Nine said they will eventually produce both EISA- and MCA-compatible systems. Compaq, AST Research Inc., and Zenith Electronic Data Systems Inc., however, said they have shelved their MCA projects for the foreseeable future.

IBM

considerations for inclusion in future versions of Presentation Manager, according to senior IBM executives.

IBM plans to be more thorough than in the past with its experimental prototypes for putting these technologies together, according to IBM executives.

"Which [of these] technologies will influence future directions of Presentation Manager is currently under consideration," said William C. Lowe, IBM's entry systems division chief in an *InfoWorld* interview at Comdex here last week.

Lowe said that in 60 to 90

days IBM hopes to make a statement of direction as to how all the different parts would come together.

"It's premature to make any statement about how this would work," Lowe said.

"We would be crazy not to take a look at what's available," said Lee Reiswig, IBM's director of software strategy. "The trick is to select what works," Reiswig said.

The challenge, he said, is how exactly to integrate the best parts of each technology into one cohesive interface.

Reiswig said that IBM would be watching closely to see how the market reacts in coming months to these offerings.

Previously, IBM had announced licensing agreements with Next Inc. and Adobe Sys-

tems for use in building an interface for AIX, IBM's version of Unix. However, this is the first time IBM has said these technologies will be used in building future Presentation Manager versions.

"With Nextstep you see some very intelligent application building tools," Reiswig said. Such tools are important in order to make Presentation Manager applications easier to develop.

"We've been interested in a long time in a version [of Postscript] as an intelligent data stream. But how all this comes together is difficult to say," Reiswig said, who added that IBM has had a lot of its best people and resources working on interface technology for a "long time."

486

worlds," House said, speaking at Comdex at an IBM-sponsored breakfast focusing on the present and future benefits of IBM's Micro Channel Architecture (MCA). "This chip will provide a much higher level of performance than any other microprocessor, and Intel has

been working closely with IBM in order to ensure that the PS/2 could exploit this exciting new technology," according to House.

House said the 486 XA chip set could create a platform for the current $15 million worth of DOS, AIX, Unix, and OS/2 applications.

"The 486 is dramatically faster than the 386 but nothing new [as far as developing a 486 version of OS/2] is required," said House. "The key change is the memory architecture, which provides up to 4 gigabytes of address space."

MODIFYING RISC TECHNOLOGY.
Intel is borrowing some techniques from RISC for the 80486 architecture. "We looked at which 386 instructions were used the most, and we looked for ways to redo the microcode that implements each of those instructions in order to take cycles out of the execution of that instruction," said Claude Leglise, marketing manager of Intel's Santa Clara microcomputer division.

"The instructions remain constant, but the way we have implemented them in microcode ... has improved significantly," Leglise added.

According to Lee Reiswig, director of software strategy for IBM, the 80486 chip will be able to run multiple 286-level sessions of OS/2 in its virtual machine mode.

Scanners

images, Kozlowski said. While the software and scanners have been available, printing has been a problem, he noted. But this year companies including Microtek, Intel, and Lasermaster demonstrated new controllers that boost the resolution on 300-dpi laser printers and dramatically improve gray-scale image quality, he said.

Companies also want to use scanners for text and data input. Firms like Hewlett-Packard, Canon, and Persoft at Comdex demonstrated text input systems pairing scanners with optical character recognition (OCR) software.

Those working with OCR believe it will boost demand for scanners even more than desktop publishing. "Secretaries

spend from a third to half their time retyping documents," said David Ross, a vice president of Calera Recognition Systems, which developed an OCR program called Truescan. With scanners and OCR, companies can input forms and documents at 1,200 words per minute instead of 70, he said.

Many potential buyers were impressed by the scanners and OCR technology that could provide them with the capability to attack business challenges that might pass them by otherwise.

Maria Sheppard of the Toronto firm MSR Inc. was looking for an OCR system to scan government tariff information into her company's database. "We need to be able to bring in vast quantities of information, more than we can handle manually," she said. The products are there, but "it's a question of how much we're willing to spend," she said.

QMS to Offer Low-End Version of Its Colorscript Thermal-Transfer Printer

BY ROBERTA FURGER

LAS VEGAS — QMS Inc., manufacturer of the first color Postscript printer, introduced last week a low-end version of its Colorscript 100 thermal-transfer printer.

The QMS announcement comes on the heels of an introduction by Tektronix Inc. of a $12,995 "low-end" Postscript-compatible printing system intended to compete with QMS' original $21,995 offering.

The QMS Colorscript 100 Model 20 retails for $16,995, which is $5,000 less than QMS' high-end Model 30 printer. Robert Owens, public relations manager for QMS, described it as an entry-level color Postscript system.

The 300-dpi printer comes with the same controller board used by the Model 30. It includes 4 megabytes of RAM, 1 megabyte of ROM, and 35 resident Adobe Postscript typefaces. The Model 20 prints letter-size pages, but with an optional controller it can print in full 11-by-17-inch format. The controller upgrade, which sells for $5,995, gives the Model 20 all the capabilities of the higher-end Model 30, according to Owens.

QMS also introduced Ultrascript PC, a Postscript-compatible language interpreter, fonts, and printer drivers that turn non-Postscript printers into Postscript-compatible devices.

QMS Inc., 1 Magnum Pass, Mobile, AL 36618; (205) 633-4300.

Comdex crowds were eager to see Olympic stars, King Kong Bundy, and even an Elvis impersonator, who was at the Tecmar booth.

Real Comdex Stars? Gimmicks, Giveaways

BY ALICE LAPLANTE AND ROBERTA FURGER

LAS VEGAS — Ah, Comdex. Where the PC industry migrates every fall, spending millions of dollars on flashy booths, colorful literature, and song-and-dance presentations.

So what was the hot attraction at Comdex? It wasn't the demos of OS/2 and Presentation Manager applications, nor the continuing debate over EISA and MCA. Not even IBM's impressive display of Micro Channel Architecture bus master capabilities drew the really large crowds.

Try bags — canvas bags. Simple bags that sported colorful designs and vendor logos. Apparently, Comdex attendees were willing to do almost anything to snag one of these prizes.

Most of the really big crowds often had nothing to do with sensational new products or hot industry issues.

Just ask anyone who visited the Qume booth, where Olympic notables — including Matt Biondi, Edwin Moses, and Florence Griffith-Joyner — were on hand to sign autographs. And let's not forget King Kong Bundy, professional wrestler and Vendex's chief spokesman, who was supposedly not scheduled to attend but was later flown in for "crowd control."

The bigger the crowd is, the bigger the crowd gets — and what draws those crowds (aside from interesting products) are stars, stage shows, and great (or even mediocre) giveaways.

Without a doubt, there's a lighter side to Comdex. And there's no place like press and dealer briefings to bring out a vendor's flare for the dramatic, humorous, or just obscure.

At an IBM-sponsored breakfast for over 1,000 journalists, analysts, dealers, and vendors, IBM's attempts at crowd pleasing fell short of great success.

At this show, IBM held a raffle. Attendees were given numbered slips of paper when they entered. Between the speakers, trumpets blared, lights flashed, and a miniature bus (a pun on IBM's Micro Channel bus architecture) would drive onto the floor. IBM officials would then pick a number, and the person with the corresponding slip would win a Model 70.

Every year there's some wonderfully embarrassing presentation or demonstration that falls flat, and this show was no exception. While demonstrating Microsoft Word 5.0 on a big-screen display to an audience of journalists, product manager Jeff Sanderson locked up his computer by inadvertently leaving a spelling checker file off his disk. Unable to back out of his predicament, Sanderson drew laughter with his quip that "we've also implemented a common feature across all our applications called control-alt-delete."

Products Benefit From MCA's Power
IBM Shows Off Bus Master Coprocessing Capabilities of Technology

BY ED SCANNELL AND ALICE LAPLANTE

LAS VEGAS — After 19 months of hinting about the hidden powers of its Micro Channel Architecture (MCA), IBM last week finally demonstrated products and technologies that take advantage of its coprocessing capabilities.

This action came none too soon. With the EISA coalition attempting to convince the industry that no one needs the MCA, and users — even true-Blue ones — frustrated due to the lack of evidence of what the MCA can do that the "classic" AT bus can't, IBM desperately needed to pull this off.

And it looks like it may have succeeded. At a Comdex briefing IBM showed off bus master coprocessors that allow graphics, storage, and communications subsystems to significantly improve the overall system performance of its PS/2 family.

The main point, according to Robert Carberry, IBM's vice president of systems, is that customers can extend the usefulness and capabilities of their MCA machines via bus master technology, when in the past they would need to upgrade to new, more powerful machines.

"These are things you can do only with the MCA," Carberry said.

In one product demonstration, IBM also displayed a third-party bus master board that upgrades 286-based PS/2 machines to 386-based systems, along with an IBM-developed board that lets the 80386-based Model 80 run System/370 applications.

IBM's communications subsystem, called the Artic Card, demonstrated five processors working simultaneously. In the background two bus master cards took care of storage management tasks and two handled communications, while in the foreground users could be running multiple applications on the main processor.

"We want to push as much as we can into the background, which leaves you with more CPU power for foreground processing," Carberry said.

As an example of a mainstream coprocessing application that could be used today in a multitude of businesses, IBM also showed an intelligent fax card from Pacific Image Communications Inc. Using the firm's Windows-based software, a normal fax card takes up so much processor time to send a fax that the seconds hand on the on-screen clock stops moving, Carberry said. With a bus master-equipped Super Fax card demonstrated by the firm, the communications are handled completely in the background

Robert Carberry of IBM said that users can extend the usefulness of their MCA machines with bus master technology.

without the intervention of the main processor.

IBM also demonstrated a graphics/image bus master adapter card that increases performance by unloading image tasks to the background. IBM is in the process of moving its PC AT-compatible Image Plus board to a bus master card, which it says will be available in the next couple of months, Carberry said.

A third demonstration was of a 32-bit bus master Small Computer System Interface storage subsystem that allows PS/2 systems to support simultaneously several intelligent peripheral devices.

The company also showed a bus master card that permits the PS/2 Model 80 to run System/370 applications. The board contains a full-function VMSP5 processor that has the power of IBM's 9370 Model 40 mainframe.

"There is a memory interface card that attaches the 370 to the Micro Channel. In effect, the Micro Channel becomes a 370 channel," Carberry said.

IBM will sell the system on a bid basis only to certain customers, Carberry said.

IBM also showcased a Token Ring bus master card it claims offers more main processor availability on a Micro Channel-based system than on a system without it.

AOX Inc.'s Micro Master 386 was also demonstrated, a bus master card that allows Model 50 users to achieve the same speed and performance as the Model 70. The product won't be available, however, until the first quarter of next year.

MCA
Continued From Page 1

long and complex process — it could prevent the group from becoming a real force in the industry."

In addition, since patent applications are confidential, the uncertainty of exactly what technologies will ultimately be patented by IBM could also hurt EISA.

"A patent application that is not yet issued is the perfect means for keeping the market in uncertainty," said Doug Derwin, a Silicon Valley-based patent attorney.

IBM executives also said that EISA's promise to deliver a public-domain specification is misleading, given that much of the basic PC and AT technologies — patents which IBM holds — would be required in building an EISA machine.

"We have some very basic patents associated with computing, so that almost everyone who builds a PC needs to deal with us," Lowe said.

According to an IBM spokeswoman, this means that vendors building MCA machines would currently pay approximately 3 percent royalties for IBM patents held in basic PC and AT technology; this amount would likely increase to 5 percent — IBM's self-imposed fee "ceiling" — when PS/2-related patents are finally granted.

But whether this will encourage more vendors to jump into the MCA market remains to be seen.

Pat Overley, president of Normerel U.S.A., which just announced an MCA clone, said it could give incentive to those vendors "sitting on the fence." But many EISA members, forewarned by industry rumors, have already declared that even if MCA licensing fees turned out to be less than previously expected, that wouldn't make any difference.

"The wrong answer of MCA at any price is still the wrong answer," said Gary Stimac,

Compaq's vice president of systems engineering.

There are three ways to license IBM-patented technology, depending on what "bargaining chips" vendors bring to the table, according to Lowe. First, IBM actively seeks out companies that have "interesting" technologies and offers cross-licensing agreements in which both firms agree to share technology for no fee. For companies who bring only cash — not technology — to the table, IBM will sign licenses for "royalty-bearing" patents at standard licensing fees, depending on the desired technology. Finally, IBM also negotiates licenses that fall in the middle of these two scenarios.

IBM's policy has always been to grant licenses to any vendor who is willing to agree to IBM's terms, Lowe said. He added that IBM's licensing policy is broad, covering all IBM patents and that no single technology — specifically MCA — would be singled out as having a separate licensing policy.

Pentax Announces Tractor-Feed Printer

Pentax Teknologies announced that it will ship next year a 16-page-per-minute laser printer that uses tractor-feed paper.

The Laserfold 240, which is scheduled to ship during the second half of 1989, has a footprint of about 7¼ by 18 by 20½ inches and handles only continuous fanfold paper.

The Laserfold 240 is designed for a duty cycle of up to 10,000 pages per month for five years and prints with a resolution of 240 by 240 dots per inch.

The text-only Laserfold 240 has built-in Bitstream's monospace Letter Gothic font and emulates the Epson FX-80 dot-matrix printer. The tractor-feed mechanism adjusts to hold paper from 4 inches to 9¼ inches wide measuring from pin to pin.

The Laserfold 240 will cost $2,995.

Pentax Teknologies, 880 Interlocken Parkway, Broomfield, CO 80020; (303) 460-1600.

— *Stuart J. Johnston*