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COMPUTERWORLD

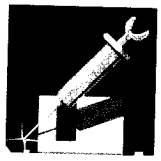
This artful Michelangelo could unleash IS havoc

Serious virus damage predicted for March 6

BY MICHAEL ALEXANDER
CW STAFF

A loose confederation of virus researchers, antivirus software developers and several other groups stepped up campaigns last week to alert users to the potentially disastrous effects of the Michelangelo virus.

The virus is expected to remain dormant until March 6 — the Italian artist's birthday — and when activated, will infect floppy and hard disks used with IBM Personal Computers and compatibles.



The Anti-Virus Methods Congress, an industry group of researchers and antivirus software developers, issued its first-ever advisory last week to warn computer users about the virus' possible dangers (see story page 8). "The speed at which the virus has spread has been unmatched by any other virus," said Dick Lefkon, president of the AMC and an information technologies professor at New York University.

The Computer Emergency Response Team, based at Carnegie Mellon University's Software Engineering Institute, said it recently issued a similar advisory, its first ever concerning a PC virus.

Past scares about viruses such as those designed to activate on Friday the 13th and Columbus Day proved to be unfounded. However, the Michelangelo's potentially devastating nature has led several virus experts to warn users to take appropriate measures to protect against being infected.

The experts are also concerned that because of the Michelangelo's newness, unwary

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Netware 3.2 may miss mark

BY JIM NASH
CW STAFF

PROVO, Utah — Early reports on Novell, Inc.'s much-anticipated Netware Version 3.2 have elicited cool responses from network managers.

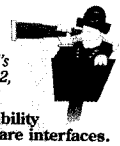
Several managers reacting to reports of planned Netware 3.2 features last week said that despite the inclusion of much-desired directory services, the forthcoming update does not address some of their primary concerns, according to what they have heard so far.

These concerns include better virus protection and continued support for connectivity products between Netware and 3Com Corp.'s defunct networking software. For example, Mark Estridge, network manager at MCI Communications Corp. in Richardson, Texas, noted that virus protection needs to be beefed up on Netware and should be incorporated in new versions of the software.

There are third-party solutions, Estridge said, but often they are incomplete, present compatibility problems and further complicate network management.

Roger Goss, a network manager at Eastman Kodak Co. in East Rochester, N.Y., lauded Novell's pledge to maintain connectivity between Novell and 3Com's lines until 1995. Goss, however, is looking for a more automatic method of using tape backup machines with 3Com servers.

LAN ho!



Users waiting for Novell's next release, Netware 3.2, can expect the following:

- **Backward compatibility with existing Netware interfaces.**
- **Distributed directory services for a global view of the network.**
- **Compatibility with the new network management software.**
- **Object-oriented software support.**
- **System-auditing software.**
- **Easier installation.**
- **Support for CD-ROM devices hanging off the server.**
- **AIX support.**

CW Chart: Michael Siggins

Yet as blase as administrators may be about what has leaked out so far, Version 3.2's expected directory services and easier installation will be more than enough to prod them into upgrading, they said.

The long-awaited directory services software is the one feature seen capable of lighting fires under users, and, according to some observers, it is what makes Version 3.2 a major upgrade.

The X.500-compliant directory is a set of functions said to simplify management and use of networks. It will enable Netware users to share resources across large networks without having to know the resources' locations. It is this ability — nonexistent on Netware today — that competitor Banyan Systems, Inc. has been able to exploit with some success in large corporations with its Streettalk directory.

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Increased satisfaction

COMPUTERWORLD BUYERS' SCORECARD

Users of mainframe general ledger software — particularly users of CA's offering — are happier with their products overall than they were in 1990

See Buyers' Scorecard, page 78

Product vendor	Score 1990	1992
Response base: 160		
Computer Associates	58	64
Dun & Bradstreet Software's M&D	60	64
Global Software	63	63
D&B Software's MSA	60	63
Average	60	64
Highest possible score	100	100

IBM PC future rides on system advancements

SLC chip: Innovation to cost users more

BY MICHAEL FITZGERALD
CW STAFF

ESSEX JUNCTION, Vt. — On the snow-covered hills surrounding IBM's massive semiconductor facilities here, local children sled on saucers that resemble next-generation versions of the silicon wafers made inside the plants.

In this out-of-the-way corner of the country, IBM engineers work on what may be the single most important piece of the company's future as a personal computer hardware maker: the SLC chip, a microprocessor that will power two of the three systems IBM is expected to unveil tomorrow (see story page 12).

IBM touts the SLC as a major differentiator, proof that the behemoth will no longer blunder but innovate in ways its smaller rivals cannot. No other vendor has the right to build derivatives

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IBM's Ledak *leads SLC into next-generation chip technology*

Questions abound as full OS/2 2.0 delivery nears

BY ROSEMARY HAMILTON
CW STAFF

BOCA RATON, Fla. — Technicians at IBM's OS/2 development laboratory here last week showed OS/2 2.0 running a native 32-bit application alongside several windows in which Microsoft Corp. DOS applications and Windows-based programs were operating.

Data was then moved from the OS/2 2.0 application to one of the Windows applications.

This seamless integration is the last major hurdle IBM needs to jump before the company can deliver the general availability version of OS/2 2.0.

Despite this achievement, IBM could face an uphill battle when it ships 2.0 at the end of next month as planned and runs into the incredible Windows momentum belonging to Microsoft.

While it may appear that IBM will provide a technically solid desktop operating system, it is unclear whether it can overcome past credibility problems and effectively sell against Microsoft.

IBM, better known for its marketing might than for techni-

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IBM's Joseph Guglielmi to head Taligent joint venture with Apple. Page 16.

Novell bundles 'burst mode' software with multiprotocol router. Page 8.

Product Spotlight — To serve the '90s, accounting software needs a revamp. Page 73.

IBM tries casual approach to development

BY ROSEMARY HAMILTON
CW STAFF

Walk into the IBM OS/2 facility in Boca Raton, Fla., and the only thing IBMish is the high level of security.

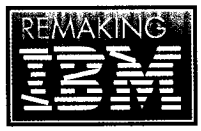
Programmers in casual clothes prefer conversational meetings to the formal marketing presentations for which IBM is so well known. The OS/2 team has been working virtually round-the-clock, and members joke about obtaining "visiting rights" for their families.

They are also gunning to finally score some points in the desktop operating systems war.

"Bill Gates talks about information at your fingertips, but we have information for your brain," said Michael Kogan, a lead OS/2 architect and principal designer for 32-bit OS/2. "I don't know about you, but I don't want information in my hand — I want it in my head."

The team represents a radical shift for IBM. After IBM and Microsoft Corp. parted ways on OS/2 development, the company decided to alter its approach to building software.

"We couldn't have turned [OS/2] into what it is today" without the changes, said Shon Saliga, OS/2 development manager.



Saliga said IBM focused on a few hundred programmers at Boca Raton and assigned them to two main teams. One team worked on the base operating system while the other handled the additional functions, such as Presentation Manager, the Workplace Shell and device drivers. Developers in Austin, Texas, continued work on the Extended Services function of OS/2.

Within the two main OS/2 groups in Boca Raton are several smaller teams that typically consist of approximately five developers. Each team owns a certain OS/2 component and guides it from start to finish.

Developers were also dispatched for the first time to customer sites so they could talk to real users. Another first is a laboratory at the Boca Raton site designed to monitor end users.

Participants, who are found through temporary-help agencies, are videotaped working with the IBM software so developers can watch their reaction to the creations.

Recently, developers learned from the videotapes that users were struggling with how to begin from within the Workplace Shell. The programmers then developed a "Start here" icon. When a user clicks on the icon, a basic introduction to Version 2.0 is provided, and users are then told how to proceed with a list of options for their next move.

This feature is not yet available in current beta-test code but will be part of the general-availability release.

Before the new approach, programmers worked as part of one large staff and rarely stayed with programming assignments to their completion, Saliga said.

Kogan said the environment now encourages staffers to get involved and care about the outcome. "Before, it was rigid and formal," Kogan said. "I've been here six years and never talked to the press."

SLC: Innovative but comes at a cost

CONTINUED FROM PAGE 1

of Intel Corp.'s chips, for example.

Of course, users will have to pay a little more for IBM's inventiveness. The SLC is expected to cost more than the SX, with a base model system built around the chip listing for $3,560. But IBM is banking that people will pay a modest premium for SLC-based Personal System/2s (desktops and notebooks) because they will offer a performance boost of about 80% over 20-MHz SL- and SX-based systems.

Users say the significant boost in performance is nice, but price remains paramount. "Performance will become more of an issue on the desktop," said W. B. Lovan, assistant buyer at Caterpillar, Inc. in Peoria, Ill., citing increased use of graphical user interfaces. "But that cost may be just a tad steep, though it's not an astronomical premium."

Amoco Corp. would like to increase its processor power, acknowledged John Chapman, a senior technology consultant, who said he thinks IBM's pricing of the SLC boxes is reasonable.

Still, Chapman said users would decide if SLC-based machines offer the right mix of performance and price when compared to other Amoco-approved products, such as those from Dell Computer Corp.

Little differences

Despite IBM's hopes, analysts also downplayed the impact of the initial SLC.

"I don't think this will differentiate their product effectively," said Andrew M. Seybold, editor in chief of "The Outlook on Professional Computing," a newsletter based in Boulder Creek, Calif. "They typically have not been a leader in performance, so this maybe catches them up with the pack but doesn't put them out ahead of it."

"It will help differentiate them if they can make SLC-based products more affordable. They need to get it to the low end, bring the pricing down," agreed Bruce Stephen, director of PC hardware and pricing research at International Data Corp. in Framingham, Mass.

The SLC represents a hybrid of Intel 80386SL and I486 microprocessors that are fully compatible with Intel's designs. It has the command set of a 486SX, a special algorithm to quickly execute key instructions, the cache controller and power management features of Intel's 386SL and the on-board cache of a 486DX.

The cache provides the primary performance boost — the 20-MHz SLC outperforms 386 systems up to the level of a 33-MHz 386DX and the 16-MHz and 20-MHz 486SX chips. Advanced Micro Devices, Inc. said it expects, however, that its new 33-MHz 386SX clone will match the 20-MHz SLC in performance and beat it easily in price.

The SLC will, as of tomorrow's announcements, come standard on IBM's Model 57 and its new Model 56SLC. It is also expected to play a major role in IBM's portable rollouts later this year.

Thomas A. Wax

The SLC chip *packs performance into a small package*

The next generation is on its way: SLC's project manager, Paul J. Ledak, senior engineer and microprocessor development manager at IBM's General Technology Division, has on his wall a poster-size plot of the "SLC II," and he keeps a carcass (a silicon wafer with just the bad chips left) of it in his drawer. IBM refuses to give a time frame for when this chip will ship in systems. It will offer at least twice the on-board cache of the current model and improved instruction sets.

PC midrange revamp

The opening salvo from IBM's SLC arsenal will come tomorrow, when the company reveals a number of boxes that essentially revamp the midrange of its PS/2 line. Expected are the following, according to sources who have been briefed by IBM:

- **Model 56SLC** — The 56SLC will sport IBM's performance-boosting processor directly on the motherboard rather than as an upgrade option, which it is today. The three-bay, two-slot configuration offers 80M- and 160M-byte hard drive options. Users can choose between two other configurations: diskless Ethernet or Token Ring Lanstations. Pricing will start at $3,560.
- **Model 57SLC** — Designed as a sister to the existing PS/2 Model 57SX, the 57SLC will start at $3,995. Again, the machine will offer 80M- to 160M-byte hard-drive options with a four-bay, five-slot configuration.
- **Model 56SX** — Based on Intel's 20-MHz 386SX chip, the 56SX will be available in 40M- and 80M-byte hard drive configurations. Users can also choose either an Ethernet or Token Ring diskless Lanstations. Pricing for the product will start at $2,745 — the same price point as the Model 55, which will be discontinued.

The SLC chip will reportedly nearly double a machine's processing speed. For example, a 57SLC will run Lotus Development Corp.'s 1-2-3 up to 88% percent faster than the 57SX. All the machines will have Extended Graphics Array standard, as well as small computer systems interfaces on the planar.

CAROL HILDEBRAND

Questions arise over OS/2 gear

FROM PAGE 1

cal leadership, may now find itself in the opposite position.

"Our biggest challenge isn't technical; it's a marketing one," said Shon Saliga, OS/2 development manager.

Even some customers attending an IBM-sponsored OS/2 migration workshop in West Palm Beach, Fla., last week were not completely sold on OS/2.

"Internally, we are not using OS/2," said Mark Caple, senior software engineer at ACT Financial in Birmingham, England. "I'm not saying never, but not now." Caple was one of several developers at IBM's OS/2 migration center, which is staffed by IBM employees from both the Boca Raton and Austin, Texas, development facilities.

Developers attend these five-day sessions, run biweekly, to port their applications to a native 32-bit environment while receiving on-site help from IBM. Caple said he was at the workshop because his company has been marketing a stock trading application, currently Windows-based, and a major customer wants an OS/2 version of the software.

EVEN SOME users at an IBM-sponsored OS/2 migration workshop were not completely sold on OS/2.

In an interview last week, Fernand Sarrat, who was recently appointed assistant general manager of Personal Systems market development at IBM, acknowledged that a product cannot always sell on its quality alone. But, Sarrat said, "It starts there. We have that, and it's the most essential piece."

Sarrat declined to comment on speculation that IBM intends to actually give Version 2.0 away in some cases. He did say IBM will launch a "very aggressive merchandising campaign" as well as rely on the "IBM infrastructure" to push OS/2 through traditional channels.

As for Windows, Sarrat said the IBM strategy does not call for direct comparisons or positioning against it.

"I think the momentum of Windows could actually help our offering," Sarrat said. "We recognize Windows, and that's why we have a Windows capability in OS/2. I think we can ride the Windows momentum, too."