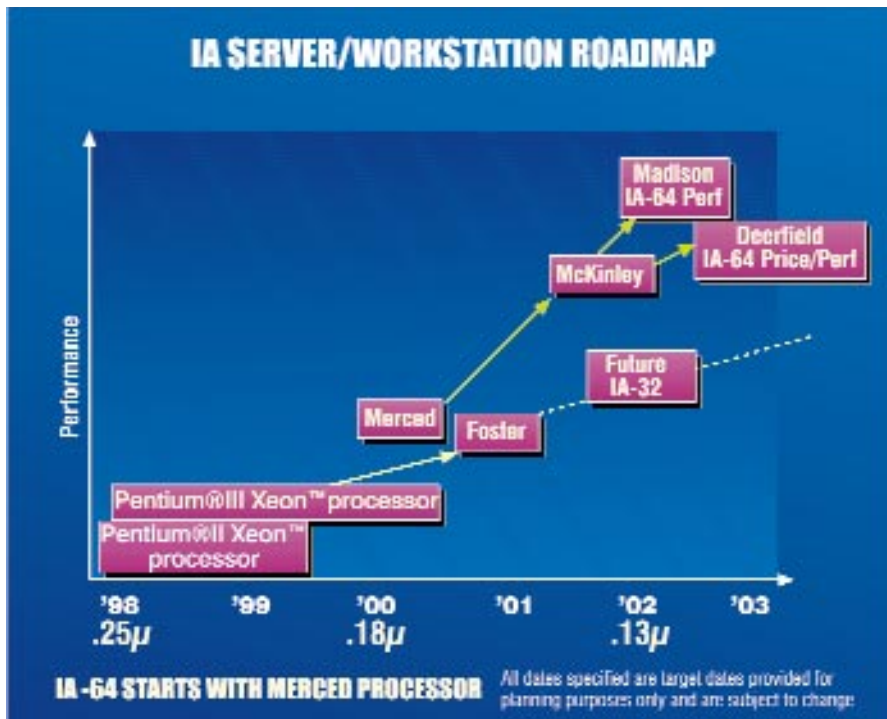


## The Merced Mystique

Details of the 64-bit Merced processor, claimed to be the most significant change in architecture since the Intel 386, are finally available to the public.

In a press conference, the two partners in the project, Intel and Hewlett-Packard, revealed the general structure of the CPU. It is said to contain more than 256 internal general purpose regis-

This next-generation processor is expected to reach preliminary silicon stages over the next three months, and it will reach production workstations and servers during the second quarter of 2000. Intel will deliver silicon samples of Merced in the next quarter—and this is when companies will begin to move off CPU simulators and start earnest



ters, 128 floating point registers with 84-bit floating point numbers, and parallel numeric processing. Other features include 64-bit memory addressing (over 1.84 thousand trillion addresses), MMX and SIMD extension support, and symmetrical multiple processor abilities. It is claimed that the Merced will maintain full compatibility with the 32-bit Pentium and Hewlett-Packard's PA-RISC MAX2 instructions.

The Merced is expected to perform more than six gigaflops or six billion floating point operations a second, which is three times the number of floating point operations per second of the current Pentium III. The processor's clock speed, however, has not been revealed yet.

development of various systems and applications.

Merced is just one of a series of IA-64 processors. Later members of the group will include McKinley (tentative delivery in 2001) and Madison (scheduled for late 2002), both positioned as server-oriented processors. Deerfield, with a possible 2002 debut, is aimed at workstations and servers. Though McKinley's processor clock should hit 900 MHz, Deerfield and Madison will certainly break the gigahertz (billion cycles per second) system clock.

More information about Merced is available at the developers' Web sites: <http://developer.intel.com/design/ia64> and [www.hp.com/go/ia64](http://www.hp.com/go/ia64).



*"Our children are being fed a dependable daily dose of violence—I know this stuff sells, but that doesn't make it right"*



Bill Clinton,  
President, United States of

On the anti-violence campaign against the film and video game

*"What makes this market scary to some is that there is no historical parallel"*

Roger McNamee, partner,  
Integral Capital

Commenting on the current Internet stock mania in the United States

*"This simply demonstrates that what the state [of New Jersey] is attempting to do here is massive overkill"*

Edward Borden, Attorney,  
David Smith's counsel

On the reprimanding of the author of the CIH virus by Taiwanese authorities. In contrast, David Smith, the alleged writer of the Melissa virus, might get a sentence of up to 40 years if convicted-

*"Microsoft thinks their future popular operating system is Windows NT. I think their future popular operating system is Windows CE. People want simpler"*



Larry Ellison,  
Founder and  
CEO, Oracle

On how he would run Microsoft if he were in charge of the company





## Paper: Most promising media for new computing applica-

Xerox PARC is at it again. The Palo Alto Research Center, where the graphical user interface took shape and where the mouse was born, is in the news again. According to John Seely Brown, Chief Scientist at Xerox and the Director of PARC, you are now holding one of the most promising media types for new computing applications paper.

Among the many technologies Xerox is working on to make paper documents smarter are DataGlyphs.

DataGlyphs are designed for encoding computer-readable data on paper documents. The codes on the paper, which look like tiny diagonal crosshatches when viewed up close, can be scanned into a PC and translated automatically into code that your PC can read.

The code might represent a word-processing file containing the address, and authentication information corresponding to an individual for security purposes,

or even a Java Bean.

But why would people want to encode digital data on plain old paper? According to Xerox's Seely Brown, it is important partly because the paperless office is a



Paper is here to stay!

myth. Paper-based communication has kept pace with digital information. Seely Brown says that self-authenticating documents and those that are partially dig-

ital, partially physical have broad implications for future applications.

Xerox has found many applications for DataGlyphs so far and is also developing a dedicated middleware software product called Paperware, for using DataGlyphs in corporate environments.

As an example of a DataGlyph application, a retailer or banker can scan a cheque, and using a computer that reads the code embedded in the cheque's DataGlyph block, check its authenticity.

The security card issued to an employee is another application.

The standard plastic cards used by many businesses can be replaced by paper cards containing a photo of the employee along with DataGlyphs to authenticate the employee for, say, access to a restricted area.

## AOL plays Pied Piper

In what would be the strongest vote of confidence yet for Internet music, America Online has purchased two key online music companies—Spinner Networks and Nullsoft.

Nullsoft is the developer of the now de facto standard MP3 player, Winamp, which boasts about 5 million users. It also built Shoutcast streaming technology, a system for streaming MP3 audio in real-time. Spinner.com is a music broadcasting service that features over 1,75,000 songs from 350 labels. It broadcasts over two million songs a day over the Net. According to AOL, it has 31 million listening sessions per month, by 1.5 million users (average 91 minutes per session).

The stock-for-stock transaction involves approximately \$400 million, says AOL. Nullsoft will move its operations from Sedona, Arizona, to be merged with Spin-



ner.com's operations in San Francisco.

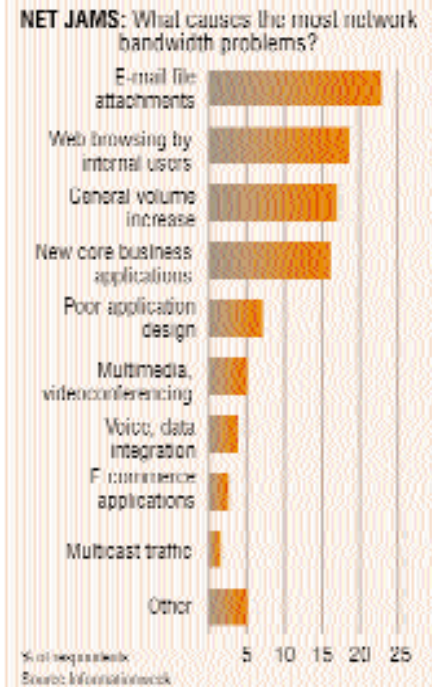
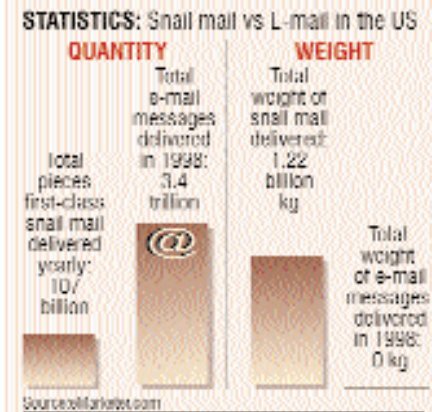
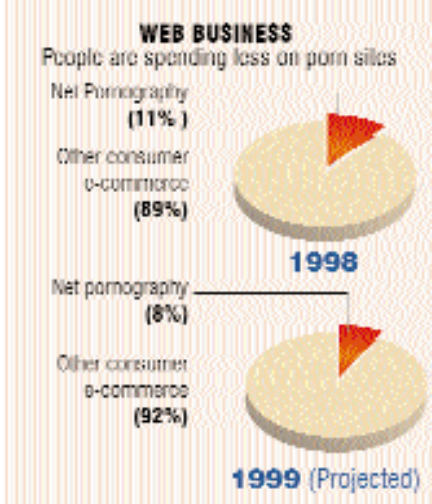
America Online said it would use the Spinner and Nullsoft technologies and programming to allow consumers to play all leading formats of Internet music. The

technologies will deliver live and Internet-only radio, sports, and music.

AOL plans to use the acquisition to build a wide range of new audio and other applications for its partners. It will build on the Spinner, Winamp and Shoutcast brands to create custom-branded music services for AOL's online service and Web directory, as well as its CompuServe, Netcenter, and ICQ brands.

"Combining these leading Internet music brands with the audience reach of our brands will lift music online to the next level of popularity," said Bob Pittman, AOL Chief Operating Officer. Pittman also said "We plan to build downloadable music, Internet radio and overall music features into each of our brands, as well as customise them for the audience and partners of each of our brands."

**THUMBNAIL**



Software company or Telecom

Microsoft plans to further its role in the telecommunications industry underscoring the company's aim to leave no stone unturned when it comes to expanding the use of Windows and related software applications. Among the plans will be a deal with long distance carrier 'Sprint' to provide Microsoft's BackOffice Small Business Server 4.5 suite as part of a new 'Business Flex' service being offered by Sprint. As a result, small businesses will have access to the Internet, Web site hosting, unified messaging, and voice communications over a tethered or wireless network.

Microsoft has already detailed plans to implement software as part of its wireless joint venture with Qualcomm called Wireless Knowledge. Microsoft has also made several splashes in telecommunications, throwing its considerable financial weight around with investments in wireless player Nextel, emerging carrier Qwest Com-



munications International and long distance behemoth AT&T.

Microsoft has noted an emerging trend in which computer and voice communications are being sent across a single pipe and being received by an increasingly diverse array of devices, opening up new opportunities for both software developers and communications carriers. And these moves are clearly aimed at positioning various components in its software portfolio for use in a rapidly converging world.

Microsoft was involved in a messaging-oriented bundling agreement between Compaq Computer and Lucent Technologies, which it announced in April. It also has announced partnerships with the Octel messaging division of Lucent as well as Active Voice.

Do not be surprised, if sometime in future, your phone, your car audio, your cable TV run on Windows!

**MIND VENTURES**

**CITM SCIENCE APPLICATIONS**  
27 - 28 JULY 1999  
CSIC AUDITORIUM, BANGALORE  
Contact: M. Mathirajan  
E-mail: [msdmathi@mgmt.iisc.ernet.in](mailto:msdmathi@mgmt.iisc.ernet.in)

**INDIA INTERNET WORLD**  
22 - 24 SEPTEMBER 1999  
PRAGATI MAIDAN, NEW DELHI  
Contact: Prakash Gurubaxani  
E-mail: [PrakashG@microland.co.in](mailto:PrakashG@microland.co.in)

**NATIONAL CONFERENCE ON OBJECT ORIENTED TECHNOLOGY**  
21 - 23 OCTOBER 1999  
SCHOOL OF COMPUTER SCIENCE & ENGINEERING, CHENNAI  
Contact: K M Mehta  
E-mail: [annalib@sirnetm.ernet.in](mailto:annalib@sirnetm.ernet.in)

## VIRUS ALERT

### PRETTYPARK: HALF WORM, HALF TROJAN

**W**32/PrettyPark, a new e-mail worm program with Trojan Horse characteristics, poses a potentially high risk to Internet users on Windows-based systems. Though assessments of PrettyPark's capabilities vary and the damage reports are sketchy, users are advised to update their antivirus programs to guard against the worm-trojan, discovered on May 12, 1999.

PrettyPark, also known as Pretty Worm, reaches users' computers as an attached file in an e-mail message. When executed, PrettyPark installs itself in the system, then sends messages with an attached copy of itself to addresses listed in the Windows Address Book.

PrettyPark attempts to connect to an Internet relay chat server from a list of 13

possible servers, and then send a message to a chat user enabling its author to gather data on (and monitor) affected workstations. PrettyPark can be manipulated as a Trojan to obtain data such as a list of available disks and confidential information such as logins and Internet passwords.

Pedro Bustanante, Executive Director of Panda Software (an antivirus company), said his company had replicated the potentially high-risk worm/trojan in its European antivirus lab. The interesting thing about this new Trojan is that, unlike Melissa, it doesn't send itself once; it sends itself every 30 seconds.

Antivirus software developers Trend/Micro, Symantec and Network Associates reported that they have been unable to duplicate



Pret -

## W e-commerce: More means less

**M**ercata, wholly owned by Microsoft co-founder Paul Allen's Vulcan Ventures, will hit the Web with a lineup of 1,000 products from 150 manufacturers and an unusual twist—prices on most items will go down as more people sign up to buy them.

"It's the we-commerce revolution," said Chief Executive Officer Tom Van Horn, 36, a veteran leader of two previous Paul Allen software ventures. Van Horn said he came up with the idea after Allen invited him to build "an electronic commerce site that might well be one of the biggest—if not the biggest-ever created."

Van Horn's response was to fix on the idea of the group buying model—a simple concept where manufacturers offer heavy discounts for volume purchases—and marry it with the power of the Internet.

Early this year, a startup company called Affinity had launched a similar service. But that company does not have the backing of Allen, something that may make a significant difference.

At the heart of Mercata's virtual department store is PowerBuy, a limited-time offer of a specific consumer product in which the price goes down as more people buy it. A colour television, for example, might be offered at \$300 to begin with, but after 200 people have

also will offer certain staple products at regular low prices for immediate shipping.

For starters, Mercata is offering products with relatively high profit margins that can benefit from volume discounts such as consumer electronics, sporting goods and kitchenware, but in the long run, Van Horn believes the model will apply to nearly any consumer product from pet supplies to automobiles.

Perhaps that is why the company acquired rights to the domain name everything.com.

Many 'e-tailers' share the same vision, but with the US retail market alone worth \$3 trillion annually, Van Horn believes there is plenty of room for everybody.

Mercata has the benefit of backing by Allen, with a portfolio worth \$30 billion in Microsoft stock and other assets, including a cable television empire with more than a million subscribers. In a future with high-speed cable connections and advanced television set-top boxes, Van Horn believes these customers will be the next wave of his we-commerce revolution.



agreed to buy it, the price will drop to, say, \$270.

After several days the PowerBuy ends, everybody gets the lowest price and the products are shipped. Mercata—a name meant to invoke a grand marketplace—

## Pentium III bug hangs 810

**P**C makers who plan to offer low-cost desktops using Intel's Pentium III chip will need to go back to the drawing board lest their machines should give up on them. This is because Intel's new 810 chip—designed as a low cost chip for Intel's Celeron processor—cannot work with Pentium III.

The goof-up, called MaskMovQ, is a Pentium III glitch that affects the Pentium III's SSE or Streaming SIMD multimedia instruction set and prevents it from working with the 810n chipset. Intel did create a workaround for MaskMovQ, but the 810 chip does not support it, thus making it incompatible with the Pentium III. According to Intel spokesperson Dan Francisco, the chip giant is not supporting the workaround because the 810 was designed for the Celeron processor, and not for the Pentium III. "If the two are put together, it could result in a system hang," he said.

Soon to be released, the 810 chip integrates a 3D graphics engine and supports modem and audio functions in software to help reduce cost. However, while the

Pentium III and the 810 do not work together, forthcoming Intel 800 series chipsets will work with the chip.

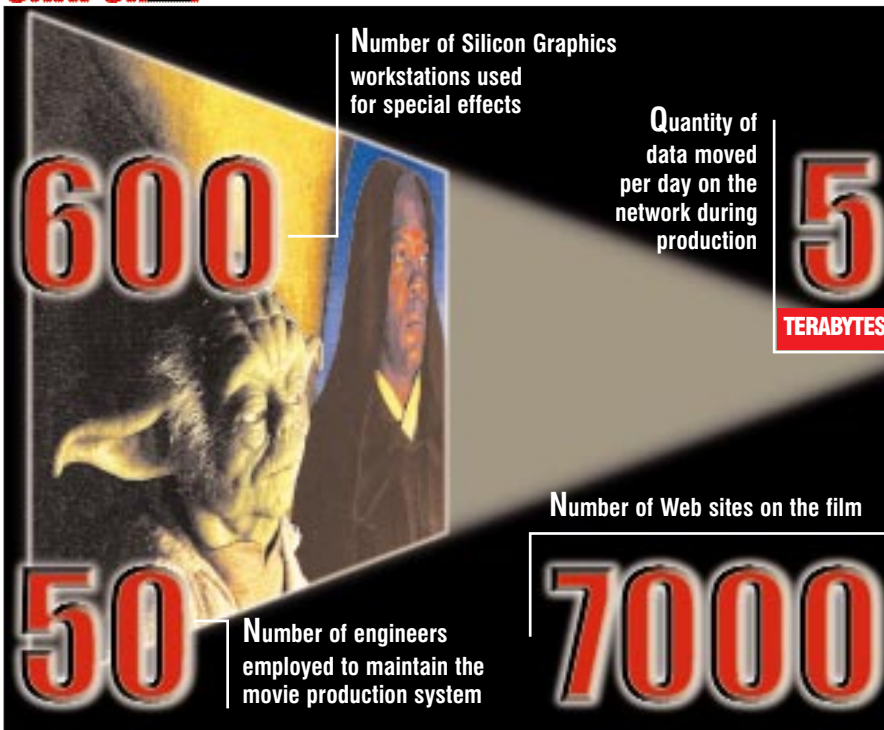
Intel has not yet publicly acknowledged the chipset names, but according to sources they are the 820 (code-named Camino) for high-end Pentium III-based machines, the 840 for Pentium III Xeon workstations and servers, and the 810E, also for Pentium III.

Intel would not comment on the existence of the 810E, but sources said it is likely to be a lower cost alternative to the 820. The long-awaited 820 chipset will offer a 133 MHz system bus, 4x accelerated graphics port and support for Rambus Dynamic RAM.

The 810E and 820 will be announced in September along with a 600 MHz Pentium III chip. The 840 is also slated for a September launch.

In the meantime, those looking for desktop PCs based on the 810 will find them combined with chips such as the 466 MHz Celeron or a 500 MHz version of the chip that is due in August.

### SNAPSHOT



"Film is dead" said George Lucas. It figures, as *The Phantom Menace* proves

## CHIP THERMOMETER

**HOT**

### Quake III

With Artificial Intelligence bots and an amazing graphics rendering engine, the final beta of this game is creating waves

### IPOs

More and more Internet start-up companies realise that Initial Public Offering on NASDAQ IPO is the best way to raise money and boost company profiles

### Internet Music

AOL has purchased Nullsoft, Real Networks has released their own downloadable MP3 player, and with Microsoft too orienting itself to play MPEG files this business is going to be hot

### ZX Motherboards

With newer and more powerful applications in the market, this scaled-down BX mainboard is a definite no-no

### 810 Chipset

Who wants a chipset that does not support the hottest processor in the market the Pentium III?



**COLD**