

# Rise of the Phoenix

**K**nown for its processing power and radical design ever since it came into being, in 1985, the Amiga sported advanced on-board processors, in addition to its Motorola 68000 processor, for image rendering and sound generation.

In the mid-80s, the Amiga was combining images, animation and video with stereo sound, which made it a pioneer in multimedia. Seen by devotees as a superior technology, and betrayed by the commercial success of inferior competitors, Amiga rose from the proverbial ashes last month, when Amiga Inc was officially declared open for business once again. Built around an architecture originally meant to drive visually rich video games, the Amiga had a latent graphics-intensive power that content developers quickly sought to tap.

For example, 32-bit pre-emptive multi-tasking that still is relatively new for our Wintel boxes, has been part of the Amiga's operating system since day one, and running only a 7-MHz processor, it is possible to browse the Web with graphics enabled!

Amiga has major changes in store for its newly adopted platform. A wholly new multimedia-intensive operating



**The new Amiga is expected to run five to ten times faster than present-day PCs**


system, Amiga OS version 5.0 is due by end-1999. It will run on a new, as-yet-unnamed multimedia processor (already earning the nickname 'mystery chip'). This system would finally take the Amiga beyond the outdated Motorola 68000 line.

Indeed, the company is promising that this processor will be so capable, integrated, scalable, and efficient that it will achieve performance and price breakthroughs. It is expected to run five to ten times faster than present day PCs, while featuring 3D-display support, playback of up to four simultaneous MPEG video streams and high-speed Internet connectivity. The company also envisions backward compatibility for the operating system.

Within a month, the company expects to announce a key operating kernel for the Amiga operating system, and Amiga foresees some versions of the new hardware selling for under Rs 20,000. Certain digital appliances such as set-top boxes using the Amiga OS are expected to be even cheaper than that.



*“The fact that you don’t have a central testing point to control ultimately how to build these things probably means that the impact will be fairly limited.”*



**Bill Gates,**  
CEO, Microsoft

On the viability of Linux

*“In one year, the only way you will be able to purchase our software is through the Oracle Store.”*

**Larry Ellison**  
CEO, Oracle


On the rapid growth of software sales over the Internet

*“This was the best deal for all the shareholders and employees, regarding long-term value creation potential.”*

**Phil Koen**  
CEO, PointCast

On PointCast being acquired by Internet

*“He’s not a criminal here as long as no one registers a complaint.”*



**A Taipei police spokeswoman**

On the alleged Chernobyl virus author Chen Ing-hau



## DOES DEAD BROKE MEAN DEATH OF FILM?

Digital film reached a new milestone last month, with the first simultaneous online and theatre premiere of a feature film in the US. Online film distribution company Ifilm.net and business ISP Globix presented *Dead Broke* to online audiences and at New York's Tribeca Film Center.

Distributing films over the Internet for theatres allows us to practically eliminate the cost of distribution, said Roger Raderman, founder and CEO of Ifilm.net. This will open a whole lot of possibilities to get films out there that traditionally wouldn't get theatre time. Filmmakers and distributors agree that it is only a matter of time before digital production replaces celluloid. Film is a nationally marketed product with conservatively controlled distribution. The hope is that electronic cinema will open the distribution channel, especially for independent theatre owners, said Wendy Bosley, Market Development Manager for



electronic cinema applications at Barco, a digital projector manufacturer.

### Envisioning the future

While in the long run, studios can definitely benefit from digital distribution, the independent theatres and producers are likely to be the ones who would have to initiate the move. It's tough enough to change the technology without trying to change the system as well, said Bob Mayson, Gen-

eral Manager of the Cinema Operations Division of Kodak. Until the price of digital projectors and storage media comes down, Mayson doesn't believe studios or theatres will push digital technology. One thing film has going for it is that it's a standard, said Mayson. Who would pay \$200,000 for a digital system that only one or two studios support, when they can get a \$16,000 projector that works with every film, and lasts for life?

Others believe the transformation may come sooner. I think everybody has their feet in the blocks and is ready to run, said David Baker, e-cinema Development Director for CyberStar, a company that hopes to provide satellite transmission services for digitally distributed films. Despite the cost of equipment, Baker believes that smaller theatres and independent film distributors are already primed to go digital. George Lucas, Lucasfilm, leads the charge to digital adaptation. This month, Lucasfilm will offer digital screenings of *Star*

## Small wonder

IBM has unleashed the first product incorporating its eagerly anticipated Microdrive—the WorkPad z50. Though



it bears a striking resemblance to the IBM ThinkPad, the z50 runs on Windows CE and is designed to be a mobile extension to a desktop PC.

What is remarkable is that this tiny matchbook-sized Microdrive can store up to 340 MB of data—enough to support a variety of memory-hungry mobile products.

The removable drive fits into a CompactFlash Type II slot so that it can be used with digital cameras, MPEG video players, MP3 audio players and GPS receivers. Unfortunately, the Microdrive is not compatible with IBM's own WorkPad line of PDAs, which do not have CompactFlash Type II slots.

The WorkPad z50 should appeal for workers who need access to networks



while in the field (whereas palm-size devices typically appeal to users who need to perform simpler data entry functions).

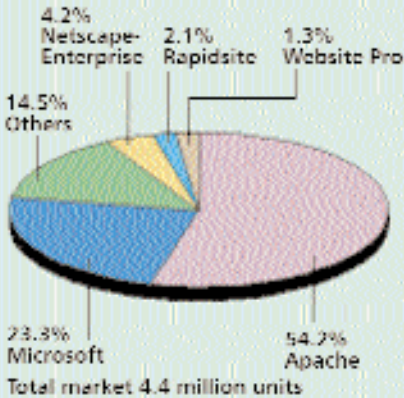
Still, competition is likely to be stiff. In 1998, palm-sized PCs ruled the market, with 1.5 million units shipped, compared to 575,000 handhelds, and just 31,000 subnotebooks.



**THUMBNAIL**

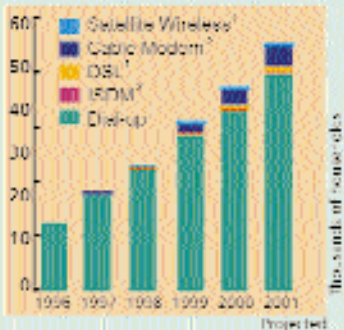
**APACHE ASCENDANT**

Market share of Web server software (Jan 99)



**FAST INTERNET FOR A FEW**

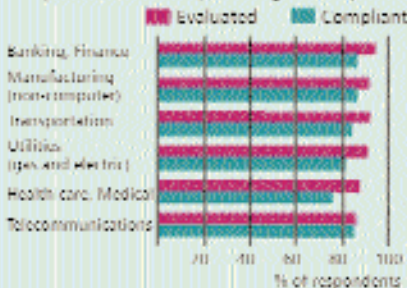
By 2002, only 20 percent of US households will access the Internet broadband connections. Of the high-speed connections, cable modem will outpace DSL.



(1) Data available as of 1998  
(2) Data available as of 1997  
Source: Jupiter Communications

**NEARING THE FINISH**

What percentage of your custom applications have been evaluated for Y2K compliance, and what percentage is compliant?



Data: Information Week Research Y2K Study of 240 IT Professionals

How I wonder how tough you

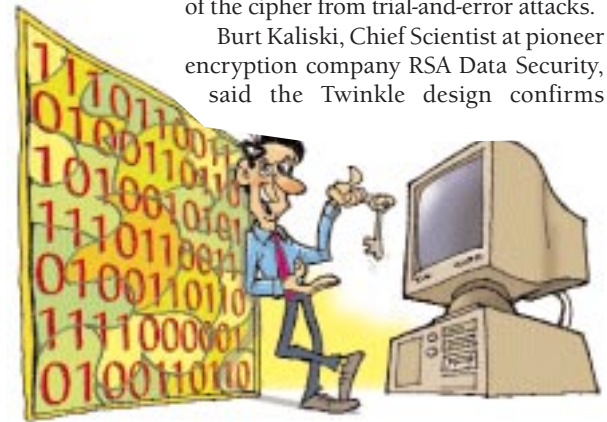
Twinkle, a crypto-cracking machine, was introduced at the Eurocrypt '99 conference in Prague. Designed by Adi Shamir, Twinkle, which stands for 'The Weizmann Institute Key Locating Engine' like fibre-optic cables, is based on optoelectronics and uses light to transmit digital information, instead of electrical impulses. Its calling card is that it can unscramble data to a degree beyond that typically used in e-commerce.

Twinkle can quickly determine the correct key for unlocking messages that have been encrypted with 512-bit keys, said Shamir, who is also co-inventor of the RSA public-key algorithm—a de facto standard for Internet security. (For more on data encryption and RSA, see 'In a Jumble', Software-Insight).

The strength of a given cryptography scheme is expressed by the number of bits in the 'key' required to unlock the code. For example, popular encryption programs used in the United States support

the equivalent of 1024- to 2048-bit security. Each additional bit doubles the strength of the cipher from trial-and-error attacks.

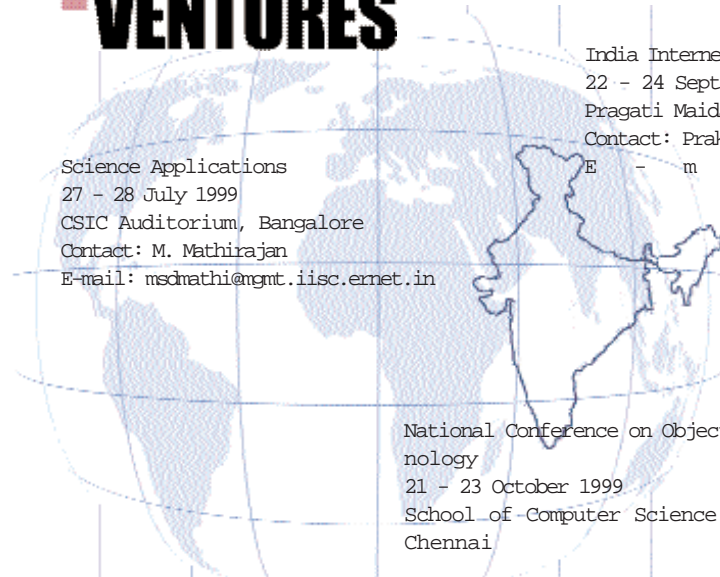
Burt Kaliski, Chief Scientist at pioneer encryption company RSA Data Security, said the Twinkle design confirms



previous expectations about the appropriateness of RSA keys as long as 512 bits. But he emphasised that larger key sizes are still out of reach despite Shamir's advance.

Shamir estimates that his device would be about 100 times as powerful as conventional PCs at this kind of [cryptic decoding] work. Further, the machine could be easily built with little funding—a Twinkle machine could be built for as little as \$5,000, he said.

**MIND VENTURES**



India Internet World  
22 - 24 September 1999  
Pragati Maidan, New Delhi  
Contact: Prakash Gurbaxani  
E - m a i l :

Science Applications  
27 - 28 July 1999  
CSIC Auditorium, Bangalore  
Contact: M. Mathirajan  
E-mail: msdmathi@gmt.iisc.emet.in

National Conference on Object Oriented Technology  
21 - 23 October 1999  
School of Computer Science & Engineering,  
Chennai

## VIRUS ALERT

### DISASTER ONCE AGAIN

The Chernobyl virus (CIH) attacked more than 600,000 home, office, and government computers around the world last month, causing an estimated damage of hundreds of millions of dollars. Named after the infamous Chernobyl nuclear explosion, the virus struck on the thirteenth anniversary of the disaster. The virus, believed to have its roots in Taiwan, tries to erase the hard drive and prevents the computer from being booted. It attacked Windows 95 and Windows 98 files, but Linux users could walk away unharmed.

In the United States, reports of 2,328 infected computers at 228 locations

were made to the Computer Emergency Response Team at Carnegie



Mellon University. The most severely affected country appears to have been South Korea, where as many as 300,000 computers were affected by the virus. CIH may have damaged as many as 15 percent of all computers in South Korea, and could cost the country \$250 million, according to a South Korean news agency's quotes of industry experts.

In Turkey, computers were affected at an airport, a military academy, the state-run radio and television station, and several banks. Electronics engineer Mustafa Ucoklar says, "Turkey was caught unprepared and the country had not taken notice of warning signs."

### WEB ADVERTISING

## Cast your Net wide!

Speaking on the future of advertising, John Pepper, the Chairperson of Procter & Gamble, the world's second-largest advertiser, said that "The Internet represents the revolution of our lifetime in how we can communicate with and serve consumers." He cautioned that many traditional ad agencies have yet to realise the potential of the Internet as an advertising and marketing vehicle. "I'm afraid some traditional agencies may miss the boat on this. I'd make sure mine wasn't one of them."

In a separate address, Philip Geier,

Chief Executive Officer of The Interpublic Group of Companies, one of the largest advertising holding companies, said that new technology "always finds a place—Cable TV began life as a delivery system, not a medium, but look at it now. Television was supposed to be the death of radio, but it wasn't. It simply changed the function of radio in the total mix".

While agreeing that a growing number of consumers will shop on the Internet, Geier believes that people will not give up the pleasures they derive from going to the mall or perusing a

book they can hold in their hands. "The pipe provided by the telephone modem is too narrow. It plays a single note—the static Web page," he said. "And aren't you getting just a little sick of all those cluttered layouts with advertising stuck on with all the size and subtlety of a postage stamp?"

Jack Connors, Chairman and Chief Executive officer of the Boston-based Connors Cosmopolos, called the Internet 'the ultimate consumer tool'. He said the Internet makes it possible for people 'to change their loyalties dramatically as a function of price'.

But he added that, for ad agencies, the medium 'is a cow to be milked. It is nothing but opportunity'. Connors echoed Procter & Gamble's Pepper, saying that advertising agencies should make the Internet an integral part of their communication programs.





# The Emotion Engine

Sony Computer Entertainment is opening two new manufacturing plants in Japan to make chips for its upcoming 128-bit PlayStation. A new processor for the PlayStation, called the Emotion Engine, will be manufactured through a joint venture with Toshiba. Sony, which will have a 49 percent stake, expects to spend ¥ 50 billion (US\$ 407.8 million) to produce 10,000 wafers a

The new PlayStation will be a follow-up to the current model, which is five years old and has sold over 50 million units. But the most notable features of the new model may not be the new chips, the promised real-time 3D graphics or the DVD-ROM. The next-generation PlayStation will include interfaces for communicating with PCs and set-top boxes. And it will be backward-compatible with the

3,000 games already released for the current system.

Bernard Stolar, President of Sega of the US, claimed that Sony's announcement is a sign that PlayStation is veering away from the game-console market into competition with WebTV for the set-top box market. Stolar claimed that Dreamcast (Sega's

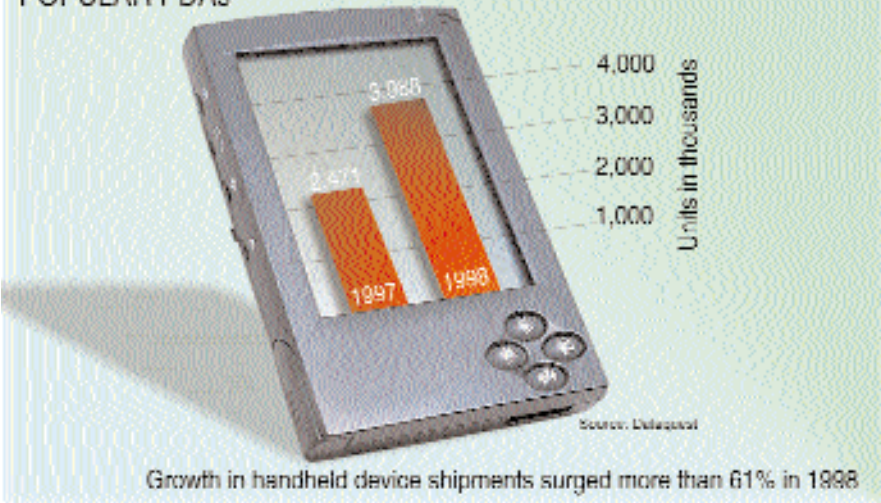
rival) will use its timing advantage to overtake PlayStation for a share of the \$6.3 billion console market that grew by 23 percent last year. However, Dreamcast does have one distinction—it includes a special version of the Windows CE along with Sega's own OS.

month. Sony will also spend ¥ 70 billion to put out a videochip called the Graphic Synthesizer. The company said the new chips will make the game system run faster than most PCs and render images faster than many present-day graphics workstations.



## SNAPSHOT

### POPULAR PDAs



## CHIP THERMOMETER

**HOT**

### Digital films & CG Characters

With the massive hype created by movies like *A Bug's Life* and *The Phantom Menace*, digital moviemaking is here and now.

### Multiplayer Games

With games like *Quake III*, which can only be played over a network, Network Gaming is really happening.

### Sony Playstation II

There is still some time to go before you can get your hands on it, but going by the specifications, get ready for a massively shocking experience.

### E-books

Getting cold responses everywhere, electronic books already seem to be losing the battle against the humble old paperback.

### Voodoo2 cards

The Voodoo3 is here! So what are you waiting for?

**COLD**