

Inside stories

► **NETWARE WINDOW?**
NT 5.0's release has been delayed by at least a year. Some see this as a chance for Netware 5.0, due to be shipped 20th September, to revive the fortunes of Novell.
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► **NEW WAVE INPUT**
Wave power takes a new meaning with a device from Toshiba that reads gestures.
Input systems special on page 29

► **SET-TOP BOXING**
Digibore TV endeavours to persuade couch-potatoes to use STBs like shopping trolleys. The real innovation could come from PC users.
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► **XML BRIEFING**
Clive Akass reports on a next-generation web language which lets machines hold meaningful conversations.
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► **1GB DRAM MODULE**
Samsung has made a DRAM module that holds 1Gb, as the market for low-capacity chips continues to slump.
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NEW COMMS

Slow lane to future on BT Highway

British Telecom has launched its Highway hybrid ISDN and analogue service, putting what must be the final squeeze on audio modems.

BT Highway splits a standard line into two channels which can be used in either digital or analogue mode, in any combination. It also gives you two extra numbers: digital and analogue. It is not the hoped-for cheap digital service and looks only marginally less dated than audio modems. But it does offer a convenient upgrade path at much the same cost as a second standard line. Many modem users find they need a second line to receive calls while they are online.

BT says terminal-adaptor makers have cards ready from as little as £50 and, unlike some older models, these will

not overload your serial port (*see Point of View, p28*).

Converting from an existing standard line costs (inc VAT) £175.08, with a quarterly rental of £81; or you can pay an initial £116 plus £120 a quarter, with the first £45-worth of calls free. Startup charges for a new connection will be £292.58 or £233.83, depending on the same options. Business prices are slightly different and, remember, all must be compared with the cost of two standard lines.

BT Highway replaces your standard phone jack with a book-sized white box (*see picture*) bearing four sockets: two ISDN and two analogue. As with straight ISDN, two lines can be aggregated to give a line speed of 128Kbps, though this incurs a double-time charge. Even a single line at 64Kbps is faster than a



56K modem, which delivers 40-50Kbps. An advantage is that you can still use your old equipment and Select Services, like caller diversion and caller display. But ISDN looks old hat, with ADSL and cable modems coming soon.

BT marketer Vishal Khakhar does not see cable presenting competition. "ISDN guarantees you bandwidth. The speed of a cable modem depends on how many people are online." He said xDSL, when it comes, will be sold as an extension to the Highway service. It offers from 1Mbit/sec downstream.

CLIVE AKASS

Highway hotline 0800 800845
www.highway.bt.com

PROCESSORS

Vendors like 450 chips

PC vendors have flocked to support Intel's **450MHz Pentium II** processor. Several manufacturers unveiled products shortly after the chip's release, including Dell, Acer and IBM. Gateway also announced plans to use the chip.

Intel says that the 450MHz will give approximately a ten percent better performance than the 400MHz processor for a similar price. An Intel spokesperson stated that users could expect better speech recognition and

better DVD with the 450MHz. He said, "The Celeron is a good basic processor. But if you really want to push out the boat and have something that will last for a few years, you'll want to go for the 450MHz."

Intel also said that it was working with games and children's software developers to help them "harness all the power and performance" of its latest processor.

SUSAN PEDERSON

Read our 450MHz PC group test on page 160

DESKTOP

iMac perks up Apple

The iMac is flying out of UK shops, despite

reports of complaints from US customers. Apple's online support site has been flooded with messages from users having problems with Epson printers, the USB and machine upgrades. Apple has now released a software upgrade which, it says, solves most of the problems.

Apple refused to comment on the user complaints and said it had no solid sales

figures yet. But Mac resellers in the UK have reported brisk sales and hundreds of enquiries and that there had been "many, many orders".

Another dealer said that it was nearly out of stock. Inteco

analyst Pete Day was surprised by the response, as he had thought that Apple had priced the iMac out of the market. "They've obviously hit on a product formula, though," he said.

SUSAN PEDERSON



Companies put 'spy' in laptops

Companies can monitor their laptops for games and mucky pictures using a new service set up by offline-storage specialist, Netstore.

Laptops have replaced desktops at many firms, either to help people work at home or because staff spend a lot of time travelling. This scattered equipment is a nightmare for IT staff who have to update and audit data and software — a tricky task, even on fixed networks.

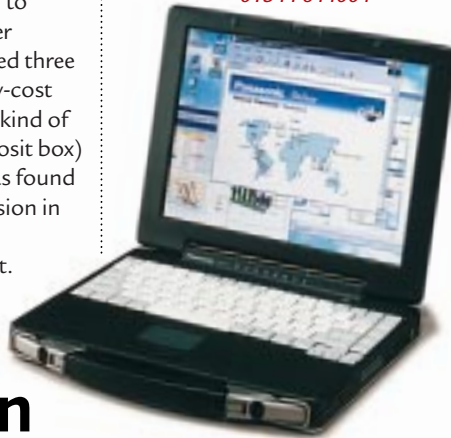
Netstore takes over the task by installing updates, such as the latest anti-virus patches, when users log in to collect email or synchronise data. It will also optionally download the "spy" module

to monitor what is on the laptop. Chief technology officer Jeff Maynard says it can be used only with the user's permission. "The reason we do it is to ensure there is no unlicensed software on the machines which can cost the company a lot of money if discovered," he said.

Netstore has just had a £3m capital injection to develop this and other schemes. It was started three years ago to offer low-cost encrypted storage (a kind of electronic safety-deposit box) over the net. But it has found that there is an explosion in demand for laptop management support.

Ian Catlin, advanced technology guru at Cisco, which uses Netstore, said he had no intention of prying into how staff use their laptops. "We couldn't, even if we wanted to. There is nothing to stop them renaming files as something innocuous like sales.txt."

Netstore www.netstore.co.uk; 01344 644004



1 in 3 notebooks break or are stolen

Companies reckon about one in three of their laptops will be stolen or broken during their working life. Cisco's Ian Catlin (see above) says the figure for his company is at least 30 percent — and that's in just 14 months, after which new machines are bought in.

One reason for the high breakage level is that laptops

have a much rougher life than desktops. But manufacturers, too, are to blame, according to a Gartner Group report last year which criticised them for not paying enough attention to robustness.

They seem to be getting the message. Panasonic claims to have concentrated on low-cost ruggedness with its new ToughBook 45, which boasts

anti-shock features and an alloy-protected screen.

Prices (ex VAT) start at £1,499 for a 233MHz MMX model, including a three-year warranty, a 4Gb disk, and 32Mb of RAM. Prices (ex VAT) of a 266MHz Tough Book 71 range (pictured, above) start at £2,299.

Panasonic 0500 404041

short stories



STAR BUY

Computers beat printed star maps hands down as a way to make sense of the night sky. But you don't want to lug your laptop around when you space out and gaze at the Great Out-There. Slip your CE palmtop into your pocket, however, and you can take advantage of Sticky Software's £20 Pocket Universe.

It can be bought online from www.mobilesoft.com



STAR BUY

Here's a dotty way to protect your PC. SelectDot stamps it with an identity number the size of a pinhead and registers it with a national database, so that if your machine gets stolen, its ownership can be traced.

Selectamark 01689 860757 www.selectamark.co



Dinobot

Shops are already preparing for Christmas — and Barney, a purple interactive dinosaur, looks as if he could be a winning present. He can be a standalone playmate or, plugged

into a PC, an interactive teaching aid in conjunction with any of five CDs. Tiny Computers is selling Barney with a PC as part of an early-learner package. Prices start from £899 (ex VAT).

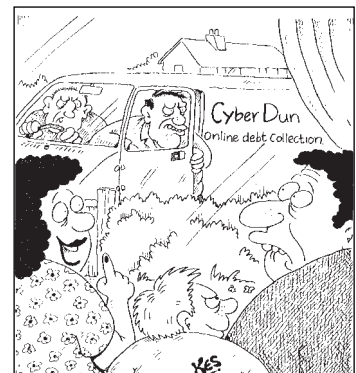
www.tiny.com

Dun roaming net

Debt collecting services have come to the net. Just fill in the details of a commercial debt at the Euler Trade Indemnity site. Collection is "processed swiftly by our professional team," said managing director,

Tony Bushell. Commissions start at eight percent for the first £5,000, reducing to two percent for sums over £10,000. ETI fees for international dunning are higher.

ETI 0171 512 9333; www.tradeindemnity.com/yourdebt.htm



'That'll teach you to withhold his pocket money for spending too long on the net'

short stories

MMX UPGRADES
Sunbelt is offering Nova Max MMX-class upgrades to Pentium machines clocking between 75MHz and 150MHz from £80 (ex VAT).
Sunbelt 0181 715 9913

NT UNDELETE
A version 1.1 of Network Undelete for NT has been released by Executive Software, which claims five times more data is lost to accidental deletions than to viruses.
*www.execsoft.co.uk
01342 327477*

EZ-SCSI 5.0
Adaptec has shipped version 5.0 of its £55(ex VAT) EZ-SCSI utility for managing multiple SCSI devices under Windows 98. New features include automatic driver update.
Adaptec 01276 854500

STUDIED RESPONSE
MathSoft has updated its Studyworks Science and Maths CD-ROMs for GSE and A-Level students.
*01276 452299
www.mathsoft.co.uk*

NEW CHIPS

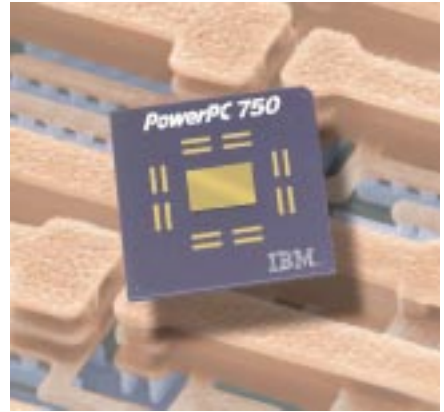
IBM ships first fast copper

IBM has shipped the first chips using its new copper connect technology. They include a PowerPC 750 used for embedded applications. The new chips use copper rather than high-resistance aluminium for electron paths, allowing the chip to run either faster or cooler.

The new 750 uses a design that ran at 300MHz on aluminium; copper allowed it to clock 400MHz. A similar 33 percent speed increase could be gained on x86 PC chips made by IBM for the likes of Cyrix and AMD. IBM makes some Cyrix chips for itself and brands them under its own name. The company says it will build copper chips to order for other companies. IBM Microelectronics' Rupert

Deighton said none had yet been received for PC chips. "If someone came to us with an x86 design we would build it." Most copper chips in the pipeline are for specialist uses, although IBM plans to use copper in its S/390 RS/600 and AS/400 server chips.

"You are not necessarily going to get the maximum benefit simply by taking an old design and doing it in copper, because it may have been designed taking the limitations of aluminium into account," Deighton said.



More improvements

will be seen next year when copper is used with IBM's new Silicon On Insulation technology. Intel rubbished both advances, but Deighton said: "The longer they stick with aluminium, the happier we'll be."

www.chips.ibm.com



Dual video card spots AGP in the market

Imagine says this is the first dual-channel graphics card to use Intel's new, fast AGP port. It lets you run twin screens at 800x600 in 16.7 million colours. A PCI version is available at the same price (ex VAT) at £320, or £370 with video-capture facilities.

Imagine 01727 844744

POINT OF VIEW

Entering cyberspace without a MAPI

A friend who runs the London office of an international news agency decided to get on the net. Seduced by those flash TV adverts, he asked BT: "Please give me an ISDN internet link." An engineer duly put in an ISDN line. "That's as far as we go," he announced — leaving my friend, whose technical knowledge starts and ends at the on-off switch, with a mysterious socket and a box marked BT Ignition. I offered help. The box held a Motorola-built terminal adapter (TA) with a PC serial lead. A twin ISDN line passes 128Kbps; a standard serial port passes 115Kbits.

I checked with Bill Peachey, technical director at Hayes, who agreed that the TA could overload the port. Most people use only one 64Kbit ISDN line at a time, but with compression, data-rates even on a single line can top 115Kbps. Few net providers support that compression, according to Peachey, but people should surely be told that their TA is hobbled without a port upgrade. I was amazed to find only Windows 3.1 disks in the box to link to BT Internet. Rashly, I decided to install,

and regretted the decision when a prompt advised me to rate the line at 19.6Kbits. I aborted the install when, without warning, it overwrote Windows 95's MAPI. DLL — the very messaging module my friend would need to file his stories. I finally linked to BT Internet using software from an old PCW cover disc. It did not recognise the ISDN line, but I have to say BT's helpline quickly solved that problem. However, BT will have to get its act together if it wants to create a mass market for ISDN.

Clive Akass



gets a user's eye view of a BT ISDN kit

Input shorts

LETTER PADS

These foldable mouse mats can be used for promotions, and vendor, Data Design, says they make for happy mice.

www.data-design.co.uk

INTERACTIVE PLASMA

Mayflower is offering what it says is the first plasma touch-screen, which can be used with its Softboard software. This allows groups of people to collaborate on a live PC document.

Mayflower 0171 267 0100

INPUT SYSTEMS SPECIAL

Hand sensor waves in gesture control

A motion sensor developed by Toshiba could lead to a more human way of **communicating with machines**. In the short term, the system, which can recognise a hand against any background and follow its movements in real time, should help people with disabilities and may be included in games.

Already it has been used in a computerised version of the ancient game of Scissors, Paper, Stone, and it could



trigger sound in new forms of musical instruments.

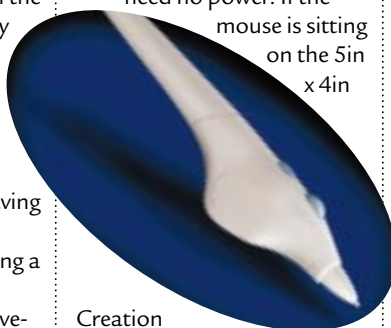
In the longer term it will allow gestures to complement or stand in for other input systems such as speech, mouse, or keyboard language, in much the same way as we now use gestures in conjunction with speech.

Writing on pad for dual input

Pen-driven digitiser pads have yet to take off in the mass market, though they are much used in CAD and graphics studios. Perhaps one reason for this is that a mouse is easier to use for some purposes, so you keep having to swap devices.

Now, Calcomp is offering a **£99 digitiser** (see column, right) that comes with a five-button mouse and a two-button pen. Both are

cordless, programmable and need no power. If the mouse is sitting on the 5in x 4in



Creation Station pad, the pen is disabled. Pro versions come

with larger pads, a choice of pens, and a cross-wire mouse with 18 programmable buttons.

Rival Wacom has launched a new professional **Intuos** range of tablets, including A4 and A6 starting at £129 (ex VAT). Options include a digital airbrush (pictured, left) and an inking pen, stroke pen and lens-cursor mouse, all at £50 (ex VAT) each.

CalComp www.calcomp.com;
Wacom www.wacom.de

RIVAL

2

tablets



Creative Station from CalComp comes with mouse and pen for £99 (ex VAT). Larger professional models are available.

www.calcomp.com



Wacom Intuos A4 Part of a new professional range. Prices range up to £549 (ex VAT) for an A3 pad with pen and mouse.

Computers Unlimited (dealer)
0181 358 5858; www.wacom.de



Wacom Lens Cursor £50 (ex VAT). A similar item is available from CalComp.

(Contact as above)

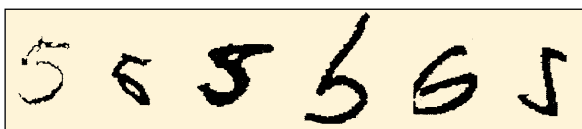
SPEECH INTERFACES

Sorting out the meaning behind a bunch of fives

Eight European firms are working to establish a best practice for machine speech interfaces like the one in BT's voicemail system. Standards set by the EC-funded DISC program could be used in PCs and speech-operated appliances.

Good recognition is only half the battle, says Cambridge-based Vocalis, one of the DISC companies. Researcher Klaus

Fallenschmid says just as important is the dialogue structure and how it is used. Vocalis is also working on mixed-mode systems which take spoken choices from visual menus. Recognition in these systems is much helped by the fact that the context is known. The same goes for machine-reading of forms filled in by hand, a speciality of another Cambridge firm, Neuroscript.



Writing is located using a colour-coded background which is subtracted to isolate the text. Probabilistic and neural methods can be used to recognise, say, the various 5s printed above. Phone numbers, names and addresses can be checked

with a database of valid forms, with enough precision to support a wide variety of applications: for instance, to read car numbers snapped by police.

Vocalis 01223 846177, www.vocalis.com. Neuroscript 01223 421270, www.neuroscript.com

Christmas resurrection for the Commodore 64

For many, the Commodore 64 dredges up **happy memories** of a bygone age. Now, the cyber-ghost has been resurrected by Netherlands-based Web Computers International, which plans to have Commodore 64s piled high in Dixons stores this Christmas.

The "new" £299 (inc VAT) version is a PC called Web.it which can run C64 software using a software emulation. It uses an AMD 66-100MHz Elan 486 processor, with 16Mb RAM (which is expandable to 32Mb), plus a whopping 16Mb of ROM holding Windows 3.1. In addition, there's IBM's PC DOS 7, Netscape Navigator, Lotus AmiPro WP and

Lotus Organizer. A variety of C64 game favourites are bundled.

Like the original C64,



everything is inside a single keyboard, with an output to TV. There is also a VGA connector for optional monitor, a floppy drive, and a 56K modem. There is no hard disk, nor for that matter a C64-compatible cartridge port, but there is a connector for a PCMCIA card unit and an infra-red port for an optional wireless keyboard. You don't get a mouse, but there is a laptop-style touchpad instead.

Targetted customers will be first-time buyers with little money. Web Computers says this is the first in a family and that its target is to sell 250,000. This is ambitious indeed when you consider the now infamous Commodore curse. First, Commodore

was thrown a lifeline by Escom, which then went belly-up. Next, Gateway 2000 bought the Amiga technology and promptly suffered some bad quarters' financial results. And Web Computers has licensed the name from the present owner, Tulip, which recently almost went bust.

IAN BURLEY

Web Computers International
www.webcomputers.net

A MicroDrive moment

The disk-drive industry has for ten years been vying to create the **smallest rotating media drive** on the planet. Today's smallest is 2.5in, with the result that most storage for small devices is based on some type of flash RAM which is expensive and tops out at about 50Mb. Now IBM has introduced a MicroDrive, with a rotating disc about the size of a US quarter. It stores 170Mb or 340Mb, measures 1.5in x 2in, and has to be placed in an adapter to work in a PC Card slot. The new drives comply with the Compact Flash Type II standard and so can be used in any PC Card slot. But you can imagine it being deployed directly into cellular phones and digital cameras. This is a real breakthrough, tripling the capacity of current flash RAM devices at about half the price. They will not be available until mid 1999, but are bound to make an impact on all types of digital devices.

I have been using an iMac for some time now and I can tell you that this is one sweet computer. It seemed large when I first saw it, but when I pulled mine out of its box, I was struck by the fact that it really is just about the size of a 17in monitor. I would not hesitate to recommend it to anyone seeking a first computer. The early rush is very encouraging for Apple. It pre-sold 150,000 units and I expect that the 400,000 it can produce by the end of September will be sold out. Apple officials think they can have as many as a million shipped to stores by the end of the year, and even that may not meet demand. At least 15 Silicon Valley stores opened at 12:01a.m. on launch day and had a mad rush of buyers. Apple is on a high and its morale is soaring. I'll be interested to see how long it lasts.

Tim Bajarin



letter from Silicon Valley

GRAPHICS Quark attempts Adobe buyout

Adobe's slowing sales and sinking share price tempted its rival, Quark, into an attempted buyout for an unstated premium over the current share price.

Quark claimed that it would "divest" Adobe PageMaker, rival to its own XPress publishing package, to avoid US anti-trust problems. Adobe rejected the bid on the grounds that it was not in the interest of its customers.

Quark, which has a much smaller net income than Adobe, threatened a hostile bid, but as we went to press Wall Street appeared sceptical that the bid would succeed.

Adobe had come to the fore earlier in August when it said that it expected to announce, at best, break-even results or a small third-quarter loss. Co-founder Charles Geschke said Q3 Japanese sales were expected to drop 40 percent.

Alasdair Boyle, Adobe's managing director in the UK, said that sales had slumped partly because there had been a lull in upgrade revenues, although it will be shipping Illustrator 8.0 later this year.

Adobe also unveiled its high-end publishing system, K2, which is trumpeted as a rival to Quark XPress.

GRAHAM LEA

ETELKA CLARK AND SUSAN PEDERSON REPORT FROM ECTS IN LONDON

Lego CDs click into place

LEGO gave a sneak preview of its range of CD-ROMs for children at ECTS, including three new creativity products that will appear this month.

Lego Creator, which has a suggested retail price of £39.99, gives kids the chance to play with virtual bricks and create complex models. The models can be brought to life and then combined to create entire Lego worlds, complete with sound effects.

Aspiring engineers will get a kick out of *Lego Loco*, an online train set that comes complete with little Lego commuters to ride the trains and explore the town. Priced at £29.99, the software allows your child to design an entire railway network and manage the signals. If they're on a network, they can send trains to other users.

Fans of Lego's Western and Pirates themes will enjoy *Lego Chess*, a real-time 3D strategy game that creates a story around the game. In the Western version, the Sheriff pursues a band of outlaws that have robbed the bank, while the pirate version involves a group of sailors in search of buried treasure



▲ LET'S HOPE THAT
LEGO LOCO TRAINS
RUN ON TIME

who must outwit pirates along the way.

Humorous cartoons are played whenever a piece is taken, and a friendly tutorial is included to help absolute beginners.

All the above products are released on 11th November. Lego also previewed some products that will start appearing in the second quarter of next year, including *Lego Land*, a theme-park design game, and *Lego Friends*, which will be part of the *Lego Software for Girls* series.

The REAL Neverending Story continues

THE Munich developer Discreet Monsters is preparing to launch an authentic 3D real-time adventure called *The REAL Neverending Story*. Based on Michael Ende's novel *The Neverending Story*, this game features an intelligent combination of action, suspense and skills, in addition to brain-teasing puzzles and tricky combat situations, building up into a powerful story with captivating special effects.

Starring the dauntless hero Atreyu, the game follows his thrilling encounters with Falcor the luck-dragon, the Rock Biter, and the Childlike Empress in the Ivory Tower. *The REAL Neverending Story* will be out in early 1999.

Gangsters

Eidos is releasing a real-time strategy game called **Gangsters — Organised Crime**. Due out in October, this game is set in a Chicago-like town in the prohibition days of the twenties. *Gangsters* is a strategy game where crime definitely pays. From extortion and intimidation to street execution and all-out gang warfare, *Gangsters* creates a world where you are "da boss" with the power of life and death over those you control. Played in a virtual city populated by over 5,000 individual characters, this game looks like it is set to be one of the most talked-about games this Christmas.

Lara returns in Tomb Raider III



JUST when you thought all the Tomb Raider hype had finally died down, Eidos is reviving Lara, the world's most famous cyber-babe. The divine Ms Croft will soon be gracing our computer screens in **Tomb Raider III**.

In a game that surpasses even her own earlier adventures, Lara travels the globe, from the deserts of

Nevada to the islands of the South Pacific. The new game consists of five new levels which can be played in any order, and it has a faster game engine than before. Lara will have new costumes and vehicles, and greater agility.

Tomb Raider III will blast into the shops in November and will be priced at £39.99.

CAMCORDER

Digi videos

Eight in ten camcorders sold are analogue but digital sales are beginning to rise, according to Sony. It hopes its new **DCR-PC1** will reinforce this trend. The PC1 is about the size of a Walkman and boasts an 810,000-pixel sensor, a 2.5in LCD monitor screen, and a 10X optical zoom. The InfoLithium battery lasts a claimed three hours with the LCD screen off. It has a fast i-Link Out, in addition to standard PC and TV outputs. Street price will be about £1,400 (inc VAT).

• **Hitachi will ship** a digital camcorder next year using DVD RAM rather than tape storage, sources say.



Sony 01932 816000

NEW SDRAM CATCHES THE BUS

Samsung has developed a memory module holding 1Gb of SDRAM, fast enough for Intel's new 100MHz system bus. The 168-pin DIMM holds 36 250Mbit SDRAM chips stacked in layers and will be used in servers, high-end workstations and video systems. The first should appear early next year.

The 1Gb modules are the second claimed breakthrough by Samsung within a few weeks. Earlier it announced the development of the 64Mbit Rambus memory modules and was ready to begin mass-production. Samples have been shipped to major manufacturers who expect Rambus chips to supersede SDRAM in the next couple of years. Samsung forecasts that its Rambus

chips will take half of the world DRAM market: it plans to make up to one million a month by the middle of 1999. World sales are expected to rise from \$20.7bn last year to \$58bn in 2001, according to analyst, Dataquest. But market researcher Semico forecasts a continuing decline. And Hitachi and Mitsubishi are shutting down fabs in the US because of a DRAM sales slump.

Significantly, Semico says there is a demand for higher-density DIMMs. It forecasts a shakeout of manufacturers, partly due to the difficulty of making fast memory.

ADDITIONAL REPORTING, MIKE MAGEE

Samsung 0181 391 0168,
samsungelectronics.com

Web searching, the natural way

Web searching is time-consuming and tedious despite the advent of intelligent search engines, so it was interesting to hear Microsoft's Steve Richardson talk in Cambridge about how it can be improved by natural language processing (NLP). Microsoft reckons NLP achieved a three times better hit rate than conventional searches in tests with well-known web search engines.

A team from Microsoft Research, Cambridge, will shortly be taking part in an international competition of text retrieval systems at Washington. "How to increase precision is a hot topic for us," says Richardson, one of some 60 NLP workers based at Redmond, Washington.

Microsoft wants to build an understanding system for unstructured natural-language text in multiple languages. Among its resources is MindNet, a knowledgebase drawn from two dictionaries: the Longman Dictionary of Contemporary English and the American Heritage Dictionary. MindNet analyses the relationships between words and their similarities. "We realised that in MindNet we

had...an architecture for processing any text," says Richardson. "If you had the power to take any text and turn it into a structure, an intelligent index for a document database, you had a dynamic repository for a conversational interface."

Workers at Microsoft Research, Cambridge, are also working on the design of electronic books (e-books), which has a long way to go, according to director, Professor Roger Needham. "There are various aspects...What sort of physical display do you hold? How do you protect intellectual property?" The e-book interface is his team's particular concern. "When display technology gets to the point that [you have a device] you can actually put in your breast pocket, we would hope to know how to use it."

Publishers will prefer a special-purpose device with built-in copyright protection but Needham hopes a way can be found around their fears. He asks: "Could you get to a situation when you can buy content and read it

on a laptop without the owner of the

content feeling it may get distributed further, illegally? This is a mountain with a lot of bones on it."

• **Cambridge company, Tadpole,** doubled its turnover overnight with the takeover of its US competitor RDI for £3.7m, making it the only manufacturer of mobile Unix workstations and servers, worldwide. RDI gives Tadpole a product line which is well accepted in government circles. Tadpole has also just launched its Voyagerli UltraSPARC-based mobile servers (pictured above), with a 20Gb disk and support for up to 1Gb RAM. And its Java-based Catesia software for screening geographical (GIS) information has recently been released.



TADPOLE'S
ULTRASPARC-
BASED MOBILE
SERVER

www.research.microsoft.com;
www.tadpole.com; www.geofox.com

Caroline Swift



continues her reports from Silicon Fen

short stories



► MORE NET, LESS SMILES

People who use the internet are more likely to experience loneliness and depression, according to a study by Carnegie Mellon University. The study found that people's unhappiness increased in proportion to their internet usage, even if they used email and chat rooms.

► NEWSQUEST MOVES ONLINE

A regional newspaper group is hoping to make it easier to join a "digital community" by providing internet access for its readers. Newsquest plans to offer unlimited internet access for approximately £75 per year, starting in October. The group is already known for other electronic publishing ventures, such as its This is... local guides.

For more information, call 0171 420 2700 or see www.newsquest.co.uk

► WINDRUSH WEB SITE



The BBC is celebrating 50 years of black British culture with an online guide to its Windrush

documentary series about West Indian emigrants to the UK during the forties and fifties. The web site has a large section on black British writing, including reviews, author biographies and a literary timeline. You can also send electronic postcards of Windrush immigrants or submit your own family photos.

www.bbc.co.uk/education/windrush

PORTALS

Gateways up for grabs

The internet portal market has started to heat up after many major companies scrambled to establish themselves as gateways to the web last month. Yahoo!, Excite and Amazon all sent a direct challenge to traditional internet service providers by announcing a range of new services designed to keep users on their site for longer. An internet portal is a site that combines a number of services, such as a search engine, chat room, shopping section and personalised settings.

Yahoo! launched its Clubs service, which features personalisation tools, email, chat and bulletin boards. The launch followed a similar announcement from the search-engine company Excite, which has also started branching out with a number of major additions to its My Excite personalised web service. The Communities



scheme allows users to not only get their own web site, but also to set up special communication facilities between groups of friends, relatives or those with the same special interest. It has additionally launched a free UK email service similar to Microsoft's Hotmail and plans to roll out a much broader selection of content that is tailored to each country.

Online bookshop, Amazon.com, jumped on the bandwagon by buying up an email community networking service and a search-engine company for US\$270m. It

plans to combine the two services with its own shopping service on one site in order to provide shoppers with a more personalised experience.

Microsoft has decided to get in on the act, too, by announcing that it would be rolling all of its sites into one by the end of this year, most likely under the name of MSN.com, as well as developing its own search engine.

For more information, see: www.amazon.com
www.excite.co.uk
www.microsoft.com
www.yahoo.co.uk

WRINKLES

Good news for grey-timers

A monthly newspaper catering to the over-50s has moved online. **Mature Tymes** offers a reunion page, competitions, a contact board and holiday information. It also has links to other sites with information on music, science, motoring, technology training and

crafts and hobbies. More than 20 percent of people aged 50 and over now own a PC, and the so-called "grey market" is one of the fastest growing age groups on the internet today.



You can find it at www.maturetymes.co.uk.



Good grief, Moncrieff!

A Scottish clan is holding a vote, via the internet, for a new tartan as part of its 750th birthday celebrations. It is the first time that a tartan has been democratically elected. The Moncrieffs say

their old pink and green plaid is boring and "unsexy" and have called for new design suggestions from clan members around the world. Voting closes on 31st October.

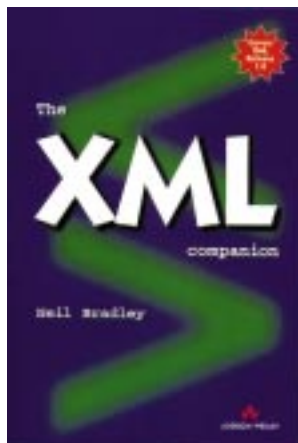
<http://ourworld.compuserve.com/homepages/clanmoncrieff>

The XML-files

Clive Akass reports on XML, which **enables machines** to have meaningful conversations.

TV, computers, desktop-publishing and the web have all at some point been likened in importance to Gutenberg's invention of movable type. Yet Jeremy Verity, senior consultant at Thomson Consulting International, unabashedly makes the same comparison as a measure for the likely impact of XML (eXtended Markup Language), which is set to become the next-generation web *lingua franca*. Gutenberg, he says, ushered in our world by enabling mass publication; XML is ushering in the 21st Century world by enabling the full possibilities of mass interactive communication.

XML certainly has ramifications that go way beyond its roots in the print industry. Like HTML, it is more or less a subset of SGML, the cumbersome but potent mark-up language used largely to generate standard-format publications such as manuals or dictionaries. Like HTML, it is platform neutral, uses undisplayed descriptive tags and is policed by the independent World Wide Web Consortium (or W3C, which released XML version 1.0 in February).



◀ **A GOOD ROUND-UP OF THE SUBJECT BY VERITY'S COLLEAGUE, NEIL BRADLEY. ANY BOOK ON XML IS LIKELY TO RAPIDLY GO OUT OF DATE BUT THIS COVERS V1.0 AND ASSUMES NO KNOWLEDGE OF EITHER SGML OR HTML, ALTHOUGH SOME FAMILIARITY WILL HELP.** • £24.95. ADDISON WESLEY. ISBN 0-201-34285-5

Unlike HTML, it uses meta data (i.e. data about data). Hyperlinks aside, HTML is simple text. XML adds information on the meaning of the text. There are two main types of XML communication: machine to machine, and machine to person. The latter is traditional publication in the broadest sense, and XML offers it significant advances.

As PCW has discovered, adapting documents formatted for print for

re-publication on the web can be no small task, particularly if, like most magazines, you design pages using Quark XPress. But documents held in XML format contain all the information needed for their assembly, styling, formatting and publication for any target audience using any medium — including the web. Explorer 4.0 supports XML and so will Navigator 5.0. This is where Thompson Consulting, an offshoot of the publishing

house, comes into the picture. Verity is not alone in seeing this type of multi-

XML is ushering in the 21st Century world

medium publication as the future of the industry and his company has just launched a module, called Te@ms, for

managing digital content.

Machine-to-machine (in effect, program to program) XML is still more intriguing. Because it can include information about data types, it can be used to exchange information between programs, including relational databases. It is also seen as a means of democratising Electronic Data Exchange, currently the domain largely of big businesses using expensive private lines and a tricky encoding scheme. An XML version of this will allow EDI transactions over the internet.

XML is seen as likely to replace not only Rich Text Format (RTF) as the standard platform-neutral word-processor file format, but also CSV and the like as the standard interchange format for databases. Eventually it will allow search engines to become a lot more intelligent. The W3C is developing an XML-based Resource Description Framework (RDF) to support metadata on the web for purposes such as digital libraries and searching. The next version of Microsoft Office uses XML. Verity reckons advanced XML browsers and XML/EDI will be in widespread use next year, and that by 2002, XML will be used in all communicating devices.

CUT YOUR CLOTH TO SUIT YOUR PURPOSE WITH EXTENDED MARKUP LANGUAGE >>

All-purpose XML

XML is easily tailored for specialist uses and has already sprouted a host of application-specific versions. Perhaps the best known is Channel Definition Format (CDF) used for internet push technology, and Synchronized Multimedia Integration Language (SMIL) for

synchronised multimedia presentations. Others include Astronomical Markup Language (AML), Bioinformatic Sequence Markup Language (BSML) for genetic engineers, Chemical Markup Language (CML), Classified Ads Format, and the Notes Flat File Format (NFF)

interchange format for the Lotus Notes/Domino platform. There's an Open Financial Exchange (OFE) for financial data, and Open Software Description (OSD) for describing software packages for automated distribution. Others cover printed music, maths and real estate.

Back seat driver

If PCs take **second place to TV sets**, who will be in the driving seat? Clive Akass views the picture.

Computers will take a back seat to TV sets for digital interactivity, according to a new Ovum report. This would appear to have deep implications for the PC industry, but you have to be clear about what is meant by "take a back seat".

The report, *Digital Television: How to survive and make money**, predicts a battle between net access providers and broadcasters for revenue from interactive services which, within five years, will generate an estimated 20 percent of digital broadcasters' income. All will try to keep punters on their patch: net providers by creating fast-access portals to popular services, and broadcasters by creating what Ovum principle consultant John Moroney calls a "walled garden" of compelling content.

Broadcasters would like to block viewers from accessing the net at all, to prevent leakage of revenue, says Moroney. They have no option if they are to remain competitive, so the TV's set-top box (STB) will have an internet port. But a surprising amount of interactivity can be had without it. This is because

web content, including entire sites, can be piggy-backed on to a TV signal. For instance, a TV advertisement may invite viewers to visit the Mercedes web site. Then, a hyperlink connects not to the Mercedes web server but to the STB, instructing it to strip the site from the TV datastream and cache it locally. Only if the viewer decides to buy a car and fills in an on-screen form, need the internet be accessed, and then for only the few seconds it takes to squirt the details to

It will be nerds with PCs who will be pushing at the edges, not couch potatoes with STBs

Mercedes. The form will cover only the goods required and personal details will be collected from a smartcard slotted into the STB.

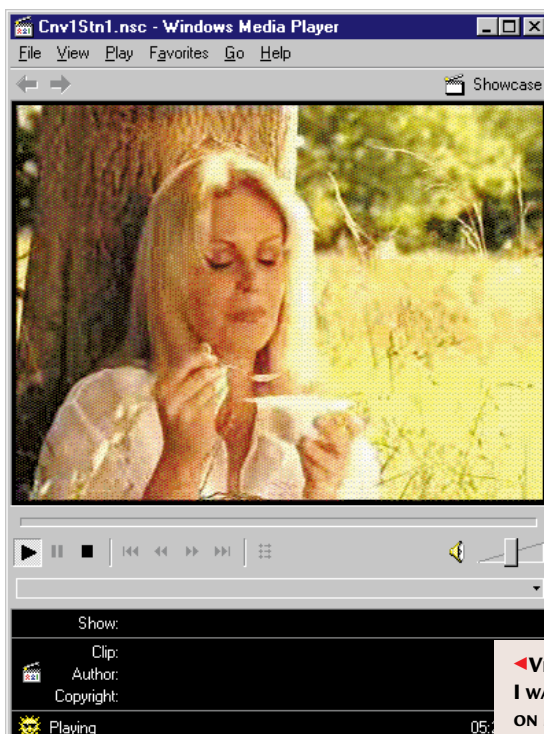
Maroney predicts that 80 percent of interactivity will take this form. Just 20 percent will occur over the net, which will be used mainly by the kind of people who are already using it, and for much the

same reasons. But his perspective is that of the major broadcasters and he assumes that a TV-capable PC will cost around £1,000. Some industry figures are already talking of sub-£500 PCs — not a great deal more than the cost of an early digital receiver. Adaptec and the Korean company Teleman already make digital PC TV cards and the UK manufacturer Pace (a major STB contractor) plans one for next year. Moreover, viewers are unlikely to be content with a walled garden, however compelling the content,

and they will balk at having to buy different STBs for different services. A PC should offer far more flexibility, controlling access to multiple digital data streams via cable, satellite, terrestrial broadcast, ADSL or whatever. Fronting them can be software that not only acts as a program guide, messaging and news centre but also works out the best paths (balancing cost, speed and quality) for sending or receiving data.

No-one knows how these systems will be used in the long run, but they will be used in ways that no-one has imagined. This innovation will come from below, not from the dictates of media moguls. You can bet your boot-disks that it will be nerds with PCs who will be pushing at the edges, not couch potatoes with STBs. Which is why I'm getting rather fond of Eutelsat, whose Convergence1 Internet service with Easynet I wrote about last month.

This is still a nerd zone, with little content and flaky prototype software demanding obscure parameters (rather like the early web). But Eutelsat is alone among the satellite companies in encouraging experimentation with PCs. I finally managed to get some TV out of Convergence1 (as opposed to Eutelsat's 350 conventional channels) last month: some clips of an IPTV datastream put out by Cisco; a fashion show using the Streamworks player; and Channel 5 via Microsoft's media player (see picture, left). All were low frame-rate with poorly-synched sound in small windows, as I had no hard-wired decompression. But it shows what can be done. This is not data being squeezed down narrow web pipes. It is data falling fast from the sky. It means you, too, can become a broadcaster. There is scope here to evolve a new type of broadcasting economy. I'm told it will be possible to get an aerial that receives both SkyDigital and Eutelsat. If Eutelsat plays its cards right and rides the Sky wave, and the trendies of the arts and music worlds spot the possibilities, it could even become fashionable.



◀ VIA EUTELSAT'S CONVERGENCE 1, I WAS ABLE TO PICK UP CHANNEL 5 ON MY TV SET

**Available from Ovum, price £1,695.
www.ovum.com*

VOX POP

Should we wait for NT 5.0?

Collected by Susan Pederson



ANDY MULHOLLAND,
DIVISIONAL
DIRECTOR,
CAP GEMINI

Quite a few people will buy Novell for tactical reasons. There are some good features and it's the right price. Its server system is good too, but the tie-in to the desktop is not so great. That is what's going to keep Microsoft in the driving seat.



FRANCES REAY,
WINDOWS PRODUCT
MARKETING
MANAGER,
MICROSOFT

I do not think the long rollout period will have a negative impact. We are carrying out intensive testing so that by the time we ship, our customers will be happy to use it. Having a product that is ready to be deployed is worth the wait.



PIM BILDERBECK,
SENIOR RESEARCH
ANALYST,
IDC EUROPE

The delay will hurt Microsoft in the short-run but, long-term, the market focus is more on the development of NT than NetWare. Many companies and businesses will wait and see at first, but I think there is a lot of confidence that Microsoft will solve this issue. You cannot ignore NetWare, though. It has a large installed base and a lot of companies are using it.



PETER JOSEPH,
CORPORATE
STRATEGIST,
NOVELL UK

Microsoft's track record on delivery is not good. Because of the testing we've done, some companies are going to roll out NetWare 5 right away. There will always be people who wait, but many cannot wait any longer. They're going to have to make a choice.

SHIPPING NEWS

Third beta delays NT 5.0

Microsoft's unexpected decision to add a third beta to the rollout of Windows NT 5.0 will push back the final shipping date of the product until late next year, according to analysts.

Microsoft originally expected NT 5.0 to ship in the first half of this year. In fact, it began shipping the second beta version of Windows NT 5.0 operating system at the end of August, which will go out to about 200,000 users worldwide.

Microsoft has created a lot of marketing hype but it's not delivering, according to Peter Joseph, a corporate strategist for Novell UK. "We've been pushing out the beta of NetWare 5 and people are suddenly asking, 'why do we have to wait for

NT? We don't have to wait for Microsoft's promises'," he said. Although he doesn't see NetWare 5 and NT 5.0 as direct competitors, the window of delay still leaves Novell in a much stronger position. He said, "If you're waiting for the technology and what it's offering today," Novell shipped NetWare 5 on schedule in September.

The second beta of NT, which was originally scheduled to ship on 30th June, is believed to contain most of the features of the final version, including directory service software. Microsoft has said it has eliminated most of the main bugs, or showstoppers, in NT 5.0. Simon Moores, chairman of the Windows NT Forum in the UK, expected

Microsoft to have worked on simplifying the product. "Microsoft is trying to tighten down the code by removing what it doesn't need. At 30 million lines of code it's still a very big product," he said. Kirsten Ludvigsen, the programme manager for IT market watcher International Data Corporation, thought that users would want to evaluate NT 5.0 before they used it. "That's what any sensible LAN manager would do," she said.

A spokesperson for Microsoft claimed that a delay to the final product was not a foregone conclusion, but said that the longer rollout would mean happier customers in the end.

ADDITIONAL REPORTING BY

PETER BRANTON,
VNU NEWSWIRE

THE LOTUS POSITION

Lotus reveals Organiser 5.0

Lotus has announced details of the next version of its time management software, Lotus Organiser. It is also launching a new campaign to protect its cc:Mail user base.

Lotus Organiser 5.0 will have enhanced contact management features, including support for group scheduling, a simplified user interface, and extended information management capabilities. The upgraded user interface features new views and navigational capabilities, including a calendar navigation toolbar. The product was due out in the US by the end of

September, but no UK release date has been announced.

Lotus is also launching a campaign to encourage its cc:Mail users to upgrade to its products. The 14 million user base will be eligible for an upgrade to Lotus cc:Mail Release 8.3 (which shipped in September) or an upgrade to the Lotus cc:Mail multi-mode client and Lotus Domino Server, or an upgrade to Lotus Domino Mail Server with Lotus Notes client. Lotus is counting on the PC version of its eSuite productivity suite to rescue the ailing product after the network computer (NC) version faltered due to poor take-up of the NC itself.

When Lotus originally launched its eSuite, it chose to target the NC thin-client market initially, but the strategy was not as successful as was first hoped for. The personal computer version of eSuite is expected to ship later this autumn.

Lotus eSuite is a Java-based application family which consists of Workplace and Devpack — a Java development kit. Workplace includes email, a spreadsheet, a calendar, chart and presentation graphics, as well as an address book.

PETER BRANTON,
VNU NEWSWIRE

short stories

PATENTED ADS

A web marketing company has snapped up the rights for the practice of paying internet users to read online advertisements. California-based CyberGold received the US patent for the practice of rewarding online consumers, and plans to license the concept to other online advertising companies. CyberGold stands to gain significant influence over online marketing, because the practice could be applied to the internet, intranets or interactive TV.

SPAM NO MORE

California has taken a decisive lead in internet legislation by banning junk email. Spammers can be sued by internet service providers under the new law, and will face up to \$50 in damages for every message they send.

TOMORROW, TODAY

Delve into the weird and the wonderful with the Beeb's new webzine, which showcases the latest happenings in the world of science and science fiction. Tomorrow's World +, which is located at www.twplus.beeb.com, is the place to go if you want to settle a scientific argument, explore the logistics of time travel or simply regale everyone with stories of your close encounter with the Loch Ness monster.

SERVICES

Internet access gets cheaper

The increasingly cut-throat internet access business has got even more competitive with the launch of two new services.

Tia Net is offering unlimited nationwide internet access for £4.90 (ex VAT) per month. Users get 5Mb web space and five POP3 mailboxes, with up to ten aliases for each mailbox. There is no setup fee and a 7-day, 24-hour technical helpline is also available. Each account also comes with a free call-forwarding service, which allows you to forward a designated number to any other phone number in the UK, including mobiles. Free voicemail is also included with the service, allowing the service to call you back with your messages or remind you of appointment details that you've recorded earlier.

Cable and Wireless (C&W) also rolled out its internet access service, which is based on a charge per minute rather than a monthly subscription. A special promotional rate is available for C&W cable telephone customers until the end of November. Until then, customers will pay 45p per hour to access the



CABLE & WIRELESS

Internet Lite service, while

non-customers will pay normal national call rates. After the trial, C&W customers will pay 1.66p per minute at weekends and 2.5p per minute, while non-C&W customers can use the service for 2.95p per minute.

C&W's Internet Lite

service is modelled after AOL's, which provides customers with a variety of services in addition to simple

internet access. C&W, however, is selling itself on offering lifetime access with the promise of an email address for life. Members pay a one-off £10 subscription to C&W, and after that, just connection charges.



SUSAN PEDERSON
(ADDITIONAL REPORTING BY
VNU NEWSWIRE)

Tia Net 0800 0926070,
www.tianet.com.
C&W's Internet Lite
0800 0923012, www.cwcom.co.uk

Win a year's free subscription to Tia Net

The first five readers to send us a postcard with their name and address on will each win a year's free subscription. Post your card, marked "Tia Competition", to our editorial office address (p10).

Music stores setting up web sites

Traditional music retailers are moving onto the net to match their online competitors. Tower Records announced that it would be setting up a UK-based internet shop for music, books and video in mid-November, while Virgin said that it would be establishing

a UK-specific site around Christmas time. The announcements were made shortly after the US-based net music store CDNow launched its European service. Tower Records plans to put over 600,000 entertainment titles online. The service will be available in

150 currencies and will be served by 40 distribution centres worldwide. Customers will be able to check out reviews, audio samples and track listings before buying.

Tower Records 01223 880 111,
www.tower.co.uk; Virgin 0800
005003; CDNow www.cdnow.com

Put some Zing! into your internet life

Internet users can now get something to keep them occupied while waiting for web pages to download. Zing! is a free internet application that pops up while a page is

downloading and plays song excerpts and jokes, gives mini French and Spanish lessons, and quotes and cartoons. Your download times aren't affected, and you

can choose as many different themes as you like from the dozen or so different channels.

Get your copy of Zing! at
www.zing.com



Micron shows off its winning team

Top US vendor **challenges market leaders** in a bid for the middle ground.

PC vendor Micron invited me to its first analysts' summit last month.

The company is number three direct seller in the US but is way behind Dell and Gateway, and it has pulled in a top-notch management team to push up sales.

Most important was new CEO Joel Kocher, who created Dell's direct sales model and is credited with defining this type of marketing. Joel is what I call a spitfire. He speaks like a southern preacher and is one of the fiercest competitors I've met.

New vice president of commercial business is Scott Bower, a top IBM marketer who is credited with helping make the ThinkPad a success; former Apple marketer Mark Gonzales is VP of world sales and marketing. Behind them are design, manufacturing and supply

teams good enough to make Micron a serious player.

Ten years ago fewer than one in a hundred PCs were sold direct, rather than via a reseller; today, the figure is

Micron has created the Mpower, a form of obsolescence protection: I think it has potential

closer to one in four and the market is growing. This segment of the industry is hot. Market leader Dell has gone for corporates; Gateway focuses on consumers, and both chase the middle ground, the small- and medium-sized businesses. This is where Micron is putting all its efforts. It has created

something called the Mpower, a form of obsolescence protection. This is not the first such scheme but I think it has potential. It has two aspects:

➤ **Trade-ins.** Other companies have tried this in the past, but usually only with their own makes. Micron will take models from some 13 major vendors; it puts the PCs through a certified green disposal program.

➤ **Trade-ups.** You can move to a more powerful system after a year. A recent survey found PC obsolescence is a major issue with buyers.

Micron is also challenging the market leaders on bangs per buck.

Chief technology officer, Dean Kline, expects it to offer a full 450MHz for under \$2,000 (about £1,250) this Christmas and a 600MHz system for the same price next year.

Intel loses out in low-price PC market

Chip-maker takes a wrong turning in the run-up to Christmas.

It is hard to believe that Intel has taken so long to get its act together with its new Celeron chip. In late August, it finally introduced a Celeron with cache to speed up this low-end processor. You may remember that the performance of the first Celerons paled in comparison to chips from AMD and National Semiconductor.

Intel has lost at least 50 percent of the sub-\$1,000 market to these competitors over this shortsighted strategy. Last October, I spoke to former Intel president, Andy Grove, about this segment of the market. At the time, Intel did not even have a chip that could be used in the sub-\$1,000 PC market segment. I asked him what Intel was going to do about it. His response was that Intel believed people are willing to pay for value and performance, and that Intel was well positioned to take advantage of that trend.

Unfortunately for Intel, he was very wrong. Demand for sub-\$1,000 PCs



➤ **CELERON, MINUS ITS CRUCIAL CACHE, LOST INTEL AT LEAST 50% OF THE SUB-\$1,000 MARKET**

system with a CeleronA at 333MHz sells for \$1,199. This tells me that Intel has no intention of playing in the sub-\$500

went through the roof last Christmas and continues to remain strong. Even worse, prices have dropped further. We are starting to see the first sub-\$500 systems hit the market. Sure, they are low-speed 200MHz systems, but analysts expect these to get a lot of attention this Christmas.

Intel's prices are still too high to get any of their powerful systems under \$1,000. Sources say that the 333MHz Celeron costs vendors close to \$200. So, it isn't too surprising, then, that Compaq's new

arena. While it might allow some vendors to price powerful systems at the \$999 range by Christmas, Intel still seems willing to give up a large chunk of this market.

I suspect AMD and National will try to exploit this chance to extend their reach, which means we could see 333MHz AMD systems for as low as \$799 going into Christmas. Clearly, the PC business is a tough place to be these days. But it's a great time to be a consumer.

SECURITY

Encryption loophole shut

Researchers at IBM and at a Swiss university have developed new encryption technology to safeguard information sent over the internet from even the most skilled computer hackers.

The new method addresses the potential flaws, discovered earlier this summer, in the SSL (secure sockets layer) encryption system used by many web sites to protect information travelling across the internet. IBM says it is aware that, although the loophole is small, it needs to stay one step ahead of hackers to eliminate consumer fears over the security of online transactions, therefore securing the future of ecommerce.

The new technology, called the Cramer-Shoup Cryptosystem, was developed

by top mathematicians at IBM's Zurich Research Laboratory in conjunction with the Swiss Federal Institute of Technology. The inventors claim that this effectively closes the back door on so-called active attacks and is unbreakable even to the most aggressive of computer hackers.

Current cryptosystems are based on extremely advanced mathematical problems that are thought to be insoluble and therefore impossible to crack.

However, hackers use active attacks which bypass the underlying mathematical problem by sending a series of cleverly constructed messages to a publicly accessible server. A skilled hacker could then decode encrypted messages that pass through the network by analysing the server's pattern

of responses to the bogus text. The Cramer-Shoup method blocks these attacks by adding another series of calculations which ensure that the server leaks no information when responding to the bogus text. IBM hopes that by adding this extra security layer, it will further allay any of the fears consumers may have concerning the security of online transactions, which is a major obstacle to the growth of ecommerce across the internet.

IBM plans to incorporate the new systems into a future version of its Vault Registry software, its public key infrastructure product, which allows ecommerce transactions to travel across organisational boundaries in a private and secure manner.

ANGELA SOANE,
VNU NEWSWIRE

short stories

GET CONNECTED BT has launched an online information and communication service for small and medium-sized businesses. The "BT connect to business" service includes internet access, web hosting facilities, business content and email for £12 per month (ex VAT) for a single dialup



licence, and £75 per month for the networked version. BT connect to business also lets users send and receive their email, voicemail and faxes over the net from anywhere in the world. For a further fee, they can upgrade to a premium content service.

More information:
phone 0800 800800,
www.btconnect.bt.com

I LIKE IT, BUT...

Home internet users are getting online because of curiosity and peer group pressure, according to a study by research company INTECO. Although users also want email and the ability to work from home, the study found that most of them didn't really have a pressing need to get online. Most users appreciated the net but could not identify a critical application for it.

THEMAIL IS FREEMAIL

You can pick up a free email-only account complete with connection from "themail". The service, which is funded by text banner ads and selected marketing emails, only requires you to install a web browser on your PC and call a special local call rate phone number for access.

More information: phone 01424 830900, www.themail.co.uk

Yell Top 10 web sites



Now that the days are getting shorter and the skies are getting drearier, it's the perfect excuse to curl up on the sofa with a nice cup of tea and check out the new



autumn telly season. Toaster at www.toaster.co.uk is a comprehensive electronic programming guide that has television listings for all UK terrestrial, satellite and cable channels. It plans to start offering customised listings as well as custom TV schedules by email. But if this

isn't quite cerebral enough, you should head over to The Poetry Society at www.poetrysoc.com. With competitions, news and reviews, it has enough to keep you occupied throughout the long winter months ahead.

1. BBC Science in Action
2. Berghaus www.berghaus.com
3. Lycos Weather <http://weather.lycos.de/weather/gb/gb.asp>
4. The Museum of Science & Industry in Manchester www.msims.org.uk
5. The Poetry Society www.poetrysoc.com
6. RAC www.rac.co.uk
7. Scottish Tourist Board www.holiday.scotland.net
8. Shop Guide www.shopguide.co.uk
9. Toaster www.toaster.co.uk
10. United Kingdom Parliament www.parliament.uk

Top 10

Last month

Products

Peripherals

1	610P	Umax	1
2	3Com 56KV90 V/FX EXT	3Com	2
3	Umax Astra 1220p Scanner	Umax	6
4	P75 To P200 MMX	Evergreen	7
5	MS Wheelmouse PS2/Serial	Microsoft	-
6	Natural Keyboard Elite	Microsoft	-
7	Mitsumi PS/2 Mouse	Mitsumi	-
8	Evergreen 486/586 Proc U	Evergreen	9
9	MS Intellimouse V3.0 (95)	Microsoft	-
10	HP ScanJet 1100c	HP	-

Windows software

1	u/g CD	Microsoft	1
2	+Bookslfu/g	Microsoft	2
3	50,000 Clipa	IMSI	-
4	es! 98 Microsoft	Microsoft	-
5	o V5 Fp CD	Digwork	-
6	C/Vup u/g CD	Microsoft	-
7	g + IE 4	Microsoft	-
8	essentials 98 C/U	Microsoft	-
9	8 UK/EU Bundle	Microsoft	7
10	on T/Type V8	Mindscape	-

DOS software

1	V7 DOS Educ	Borland	1
2	V7.0	Borland	3
3	22 upgrade	Microsoft	4
4	mander V5	Symantec	8
5	10 User CD	Novell	-
6	5 for DOS	CA	-
7	1 User Lic	Novell	-
8	Remote 3.2	Microsoft	3
9	e V5 Host	Symantec	-
10	5 User	Novell	-

CD-ROMs

1	Restricted Access	EA	1
2		Fast Track	9
3		Guildhall	-
4	Britannica	Acclaim	5
5	Teaches Typing	Mindscape	-
6		Fast Track	-
7	Upgrade	Microsoft	-
8	Ultimate Dossier	Eidos	-
9	Time	AA	8
10		Europress	-

Games

1	Game	EA	-
2	der	Sold Out	2
3	ager 97/98	Gremlin	1
4	e Behind E Lines	Eidos	3
5	8	EA	-
6	of Time	Europress	4
7	on: Replay	GT Int'tive	5
8	ip Manager 2	Eidos	8
9	Unfin'd Business	Eidos	-
10	Falcon	Sold Out	-

Games and CD-ROM figures supplied by HMV. Others from Software Warehouse

Action space game to be sold via shareware



A new game, called **Robosaurs Versus The Space Bastards**, caught my eye this month. Not only because of the outlandish title, but also its superb gameplay. This platform game lets you choose from characters that are based on certain famous action-film actors. Robosaurs will not be published in the traditional manner. Instead, its producer, Krusher Productions, plans to sell it exclusively through the shareware model as perfected by iD software with Doom. Take a look at the web site at www.spacebastards.com — but we do stress that this site is for adults only.

Have you ever wanted to come face to face with disaster? With **Emergency**, the new game from ASCII Entertainment, you can do just that. This real-time strategy game will have you coping with disasters at every turn. It is your job to co-ordinate the activities of the full range of emergency services: fire, police and allied emergency rescue — all within a budget. You are given a mission, which could be a raging forest fire, a plane crash or a nuclear power-plant meltdown. But if you get it wrong, people will die. Don't miss our full review in next month's issue.

Mindscape, the publisher of those cute little Norns, in **Creatures**, is now launching

Creatures 2.

The follow-up to the artificial-life software which has sold over 500,000 copies, takes A-life technology several stages further. To find out how **Creatures 2** is different to the original, read the PCW review in next month's *Screenplay* section.

Europress is offering an amazing deal. **Total Insanity 2** gives gamers the chance to pick up **Worms 2**, **Star Trek Generations** and **Titanic - Adventure Out of Time** for an all-in price of just £29.99. For more information, call Europress on 01625 855000.

Act now to enter a nationwide quest for the undisputed **Quake II champion**. If you are aged 18 or over, register and play online via Wireplay's **Quakeadelica** web site this September at www.quakeadelica.com.

ETELKA CLARK

Reviewed games (p311): *M.A.X. 2*, *Vangers - One for the Road*, *The X-Files*, *Outwars*, *Deathtrap Dungeon*, and *Cannon Fodder*.