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TechNews is a technology, news and analysis service aimed at those in the education sector keen to stay informed about technology developments, trends and issues. Please navigate the newsletter by clicking on items within the table of contents below.

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Networking and wireless

Analysis: Wireless Community Networks

The greatest strength of Wireless Networking is the flexibility it brings. Wireless Community Networks provide internet access to users in a large geographical area such as a city centre or neighbourhood. Schools could be used as wireless transmission hubs in such networks, helping develop home-school links.

Telecommunications companies are able to easily and cheaply deliver high speed backbone networks to concentration nodes, such as council houses or universities. However, the last mile links are high cost, relatively low speed connections that can be expensive to install. Wireless Community Networks (WCN) look to replace these short distance wired links, commonly delivered across or alongside the wired telephone networks, with wireless zones. Each zone would serve a number of different customers and multiple computers. The main advantage of wireless is the ease of deployment. For example Wireless Philadelphia estimate 10 zones can be installed by an engineer each day.
<http://www.wirelessphiladelphia.net/>

Considerations when examining developments in Wireless Community Networking include technology, ownership, aims and the financial model.

Most technologies suitable for WCN installations, are variants of the 802.11 (a, b or g) (Wi-Fi) or the newer 802.16 (WiMAX) wireless standards. WiMAX offers superior range and bandwidth over the 802.11 based standards. The longer the range and greater the performance of the network the fewer hardware installations are needed and the lower the costs. Networks comprise nodes that are either linked by wired or wireless networks to each other. Mesh networks are popular solutions for Wireless Community Networks. In a mesh arrangement each wireless node communicates with a number of others to create a wireless network that is resilient by providing multiple routes between any given nodes. This reduces the chance of overall system failure, improves performance and makes for easy installation.

http://en.wikipedia.org/wiki/Wireless_mesh_network

Wireless Community Networks are created and owned by different organisations. It is possible for communities to build their own networks, using networking standards such as Wi-Fi to communicate between units. There are various protocols used to manage the mesh network routing and control and there is a developing standard called 802.11s in this area.

Eastserve Broadband is a wireless provider supporting regeneration in the East Manchester area. It supplies the network as a non-profit organisation that is funded and supported by various public bodies, organisations and companies. Residential broadband access is provided at cheap rates to its customers with a focus on education, improvement and whole community regeneration.

http://www.becta.org.uk/etseminars/presentations/presentation.cfm?seminar_id=53§ion=7_1&presentation_id=166&id=2608
<http://www.eastserve.com/>

Many of these community networks are competing directly against the data capacity of the 2.5/3G mobile telephone networks. Mobile telephone based services are currently slower than the 802.11-based networks and there is likely to be some kind of convergence of the two types of network in the 4G mobile phones. This, combined with the increasing growth of Voice over IP, raises some interesting possibilities for community based voice and data networks.

The Community Broadband Network (CBN) is developing a comprehensive set of services to benefit local broadband projects. This organisation is aimed at supporting the growth of wireless community networks. Community networks often start with a great deal of enthusiasm, but ongoing sustainability as volunteer enthusiasm wanes and the support requirements rise, can be an issue.

Consume the Net (<http://consume.net/>) was one of the first co-operative networking approaches. Instead of creating a standard or deploying shared infrastructure, it aimed to map publicly available wireless nodes that are open for free use. Piertopier (<http://www.piertopier.net/>) offers free access from wireless nodes in Brighton to residents and visitors alike.

A number of councils and municipal authorities have created Wireless Community Networks. These have taken different forms and have attracted different responses from the commercial sector. Philadelphia, the fifth largest city in the US, is building a large scale municipal wireless network to offer low-cost access to the internet and other online services for residents and visitors. The city has argued that it is delivering a service to those who cannot afford wireless broadband, but some telcos have complained that the city is in direct competition with them and is acting as a subsidised competitor. This tension is a common feature of all municipal wireless projects.

There are strong parallels with the early development of utility companies. In the early 20th Century, public sector companies introduced provision of gas and electricity and these companies were later privatised. Telephone companies originally developed as private local exchanges that then linked together using shared long-distance carriers. These Wireless Community Networks are promoting the concept of "network as utility" – where the ultimate provider of the network is less important than the universal availability of the service. Currently, incumbent telcos have a Universal Service Obligation relating to availability of voice lines across a country, but there is some pressure to extend this to broadband internet access.

<http://www.ofcom.org.uk/consult/condocs/uso/main/?a=87101>

In the UK a number of councils have chosen to deploy, or support the deployment of wireless networking equipment. Westminster Council has partnered with BT to implement a wireless network for its own applications, such as CCTV and to support remote workers across the borough. There are plans to open this network to residents in the future on a quasi-commercial basis. This partnership approach has also been deployed in some areas of Cardiff. Cardiff City Council offer Telco access to infrastructure, for example allowing mounting of wireless equipment on street lamps and council buildings, in return for a share of the commercial subscription revenues. Islington Council has gone beyond simply enabling wireless access in part of its area and has donated PCs so that businesses have a complete package to kick start their use of the internet. More recently pre-WiMAX services have been launched in a limited number of areas. Telabria has pre-WiMAX services in Kent and Libera covers Bristol, for example.

<http://www.westminster.gov.uk/councilgovernmentanddemocracy/councils/modernisation/westminsterwirelesscity/>

<http://www.btplc.com/News/Articles/Showarticle.cfm?ArticleID=534dcbc1-c872-4d79-8042-e5ab9ccf1e5c>

<http://www.islington.gov.uk/Council/CouncilNews/PressOffice/2005/06/2005.asp>

The driver for the creation of these networks is not the technology. The revenue opportunities will obviously attract some councils, as the public sector is a significant owner of real estate with neighbourhood offices and schools – each normally already equipped with a high speed broadband link. However, beyond maximising the effect of existing investment, the real agenda is one of engineering social change and increasing economic growth.

The councils that are rolling out these networks hope that businesses, families and individuals will value the provision of broadband and exploit the opportunities of the network to grow their businesses, develop their skills and knowledge and access services. The foundation provided by internet access enables wider access to both e-government services and new, community services such as tailored neighbourhood council portals.

Networking and wireless news

Preparing for 10Gbps over copper

Network engineers and equipment suppliers are eagerly awaiting the 10GBase-T (802.3an) standard for 10Gbps over copper wire. This standard, which is expected to be finalised in mid-2006, is expected to work to over 50m using CAT6c UTP cable and up to 100m over STP cable. 10Gbps Ethernet over fibre still has the distance advantage with a range of some 40km, but for short range connections in buildings and server rooms the ease and familiarity of copper is expected to be popular.

<http://www.techworld.com/features/index.cfm?RSS&FeatureID=2117>

802.11n developments

At meetings in November 2005, the IEEE Task Group overseeing the specification for the 802.11n high speed wireless networking standard announced that it will adopt elements from the Enhanced Wireless Consortium (EWC). The EWC was set up by Intel to accelerate the standards definition process and try to bring together the rival TGn Sync and WWiSE proposed standards. It is expected that a joint draft specification will be submitted to the IEEE shortly. 802.11n promises 100Mbps+ real world data rates, far in excess of the existing 802.11 a, b and g standards.

http://www.theregister.co.uk/2005/12/15/802-11n_wifi_rivals_align/

WiMAX update

In mid-December 2005 the mobile WiMAX standard, 802.16e was formally approved by the IEEE as IEEE 802.16e-2005. Mobile WiMAX, designed to be used for communication between fixed antennae and mobile clients, is expected to eventually out-sell fixed WiMAX (fixed point to fixed point, regulated spectrum) installations. Standards based equipment is expected to be certified throughout 2006 though some concerns have been raised about the battery performance/power requirement of mobile WiMAX that might restrict its deployment in practice.

<http://www.ieee802.org/16/tqe/>

<http://www.techworld.com/news/index.cfm?RSS&NewsID=4963>

Mesh networks grow in maturity

Analysts at ABI Research suggest that in the next five years the number of mesh networks deployed could increase by a factor of ten. These networks can either be created "top down" by municipal authorities or community groups, or from the "bottom up" by individuals operating standards based equipment. Commercial interest in Mesh networks, wireless networks where signals can hop from station to station by flexible routes, is developing. For example, one of the major networking vendors, Cisco, has announced a new range of equipment designed to serve users in metropolitan communities.

http://www.cisco.com/en/US/netsol/ns621/networking_solutions_package.html

Growth in city centre Wi-Fi hotspots

The growth in public Wi-Fi continues. The Cloud and BT have announced plans to mount Wi-Fi equipment on BT payphones and other locations to give high levels of coverage in Edinburgh, Leeds, Manchester, Birmingham, Nottingham, Oxford, Cambridge, Liverpool city centres and three London boroughs. These networks will be open to subscribers of the BT or The Cloud services. The Cloud also announced recently a deal with Nintendo UK to offer free Wi-Fi gaming to owners of the Nintendo DS handheld gaming system. Municipal Wi-Fi continues to be important to a number of councils and service providers and is competing against the rise in 3G data cards. The deal with Nintendo is significant as it highlights the importance of multiplayer, online gaming in the console market. Pervasive connectivity of wireless devices, combined with online services such as Learning Platforms and blogging, would allow live feedback from field trips and truly extend the education experience. It is also possible that in the future such public Wi-Fi would support location aware computing.

<http://www.prnewswire.co.uk/cgi/news/release?id=161152>

http://www.thecloud.net/pr/news_view.asp?ID=354

European GPS moves a step closer to reality

Giove-A, a technology demonstrator for the EU's Galileo satellite navigation system has been successfully launched from Kazakhstan. The satellite, which cost £19m, is designed to "claim" the spectrum required for the Galileo system and test the atomic clock technology which forms the core of the service. The full system will cost £2.3bn and will be operational in 2010. The service was designed to provide a next-generation alternative to the US government GPS system that is both more accurate and under civilian rather than military control. It should provide accuracy up to a metre even in urban areas.

<http://news.bbc.co.uk/2/hi/science/nature/4555298.stm>

New power solutions for wireless sensors

Sensor nets are increasingly used for a variety of purposes including surveillance, traffic management and weather stations, but keeping them powered is a challenge – especially when they are deployed to monitor environmental conditions well away from the power grid.

US scientists have successfully created pocket-sized windmills that can deliver 5-50 mW of power from a wind flow of 5 - 10 mph. It is hoped these prototypes, that use rotating piezoelectric crystals, can be refined to create more "environmentally powered" devices such as portable music players powered by the walking motion. Trials are underway in Scotland of solar-powered Wi-Fi units attached to lampposts. The technology on trial is expected to power both the light and the networking, providing reliable services and the possibility of selling excess power to the National Grid.

<http://www.indolink.com/displayArticleS.php?id=111205035839>

http://www.theregister.co.uk/2006/01/05/wi-fi_lampposts/

Koreans trial solutions for more efficient wireless communications

New technology being trialled in Korea aims to increase the range of all kinds of radio frequency (RF) transmitters. This is aimed mainly at improving the quality of mobile phone signals and decreasing the amount of antennas that are required to cover an area. A new algorithm combines transmit and receive RF signals from two antennae resulting in improvements to the signal to noise ratio in the handset. In Korea these developments are being driven by the rising interest in and uptake of multimedia content and data services.

Samsung demonstrated at CES their latest phone handset that uses the Korean WiBro standard for mobile internet. WiBro is related to the WiMAX standard and is designed to give mobile wireless broadband access to devices. Later this year Nokia are planning to release handsets that support Wi-Fi, demonstrating how the mobile phone is transforming into a connected mobile computer.

<http://www.technewsworld.com/story/47630.html>

<http://news.bbc.co.uk/1/hi/technology/4529116.stm>

<http://us.gizmodo.com/gadgets/cellphones/wibro-service-being-demod-at-ces-146444.php>

Wireless USB moves closer to reality

The growth in USB standards increases. Alongside the well-known USB, Hi-Speed USB and USB On-The-Go (for device to device connection not requiring a PC) comes Wireless USB. Wireless USB works by enabling the USB protocol over Ultra-Wideband (UWB) wireless networking.

The Wireless USB standard is being driven by an industry group led by Intel and the first products meeting the standard are expected in early 2006. Certified Wireless USB performance is targeted at 480Mbps at 3 meters and 110Mbps at 10 meters. A "Cable Free" USB" initiative has also been launched by Freescale and other manufacturers using a rival UWB specification. This will use dongles that plug directly into existing USB 2.0 ports and will also be found in devices from manufacturers such as Belkin.

According to a recent USB research report by In-Stat, more than 700 million USB devices are in the market today and that number is forecasted to increase to 2.1 billion in 2009. Already wireless extenders for USB devices are available, but the real growth will come when the necessary receivers are built into PCs and operating systems, and a variety of devices are available.

http://www.extremeuwb.com/article/Heres+How+Wireless+USB+Will+Work/161328_1.aspx

<http://www.usb.org/>

File-sharing moves to private networks

Security specialists are concerned about the rise of darknets, which can be used for a variety of purposes. A darknet is a closed, private network that runs through invitation only. Using specialist software installed on PCs, similar to VPN technology, users of a darknet share data only within their community, making monitoring impossible except at the level of network packet inspection. Darknets may be used by file sharing networks to avoid prosecutions. To prevent darknets being installed on organisation networks, experts at Lockheed Martin Information Technology suggest using the usual range of security measures as well as working on a basis of "least privilege", where users are only allowed the access rights they need to do their job.

http://www.cio.com/archive/110105/tl_filessharing.html

Multimedia

Analysis: Digital camera sensors

The early market for digital cameras was characterised by a "megapixel race" with manufacturers competing to produce cameras with ever higher resolutions. A parallel can be drawn with the "gigahertz race" for faster clock speeds in the microprocessor market. However, just as processor manufacturers are starting to place less emphasis on clock speed as an indicator of performance, megapixel growth has slowed and other factors are differentiating cameras. Moreover, increasing the pixel count of sensors is beginning to have diminishing returns.

The prices for cameras in the various megapixel categories have begun to level out. PMA (Photo Manufacturers Association) research has found that 2 out of 5 consumers are willing to pay a premium for better resolution. However, ease of use, size and design are equally important for most buyers.

As the megapixel count on consumer models has increased, many in the field of photography have questioned whether these cameras produce better images. As with processor clock speeds, megapixel counts are an easy to understand, intuitive indicator of performance. Manufacturers recognise this and despite attempts to emphasise other factors, still increase resolutions year on year. It is not easy to change the perception that higher megapixel sensors produce better quality images.

Digital camera sensors come in a variety of sizes: 1/25" (0.527x0.396cm) sensors are used in inexpensive cameras; 1/1.8" (0.718x0.532) sensors are used in compact cameras; 2/3" (0.88x0.66cm) sensors are used in high end consumer cameras and enable wider angle focal lengths; "APS" (2.27x1.51cm) sensors are used in some digital SLR cameras; the largest sensors "24x36" (3.6x2.4cm) are used in professional/prosumer cameras. Olympus have developed a 4/3 sensor as a "common standard" for digital SLR cameras, but it has not been widely taken up.

The problem is that as the resolution of digital camera sensors has increased, the individual photosites (receptors) that make up the sensors have decreased in size. This is because the total surface area of sensors has not generally increased along with the number of pixels. More expensive "prosumer" and digital SLR cameras use bigger sensors, which allow for larger, more light-sensitive photosites. These larger photosites produce superior dynamic range, colour depth and resolved detail. Also, the increased sensitivity of larger photosites means they require less amplification before digital conversion, resulting in a better signal to noise ratio.

This makes simple megapixel counts a very inaccurate measure of quality, as they do not take into account the size of the photosites (pixels). A 6 million pixel compact digital camera with a 1/1.8" sensor will generally produce poorer images than a 6 megapixel digital SLR. The photosites on the 6 megapixel Nikon D70, for example, are 8.5 times larger than on the 8 megapixel Nikon Coolpix 8800 compact digital camera.

In fact, many mainstream digital cameras use identical sensors manufactured by Sony. The difference in image quality between these cameras depends on the lenses used and most significantly the processing of the image within the camera. Different manufacturers aim for their own distinctive balance of sharpness, colour saturation, noise reduction and brightness. This processing of the image

data has become increasingly sophisticated and can compensate for some of the shortcomings of sensors. However, cameras capable of capturing images in the RAW format store the original sensor data without any processing taking place. This data can then be uploaded to a computer and manipulated with imaging software to achieve the desired results.

There are two main types of sensor: CCD (Charge Coupled Device) and active pixel sensors. The vast majority of active pixel sensors are CMOS (Complementary Metal Oxide Semiconductors) and this is a more common name for them. CMOS sensors were initially used in inexpensive cameras and webcams. However, improvements in the technology have seen them introduced on digital SLRs with resolutions between 6 and 18 megapixels. In high-end cameras they can now match the output quality of their CCD counterparts and analysts predict that CMOS sensors will soon overtake CCD sensors in revenue terms. CMOS sensors, which are essentially "cameras on chips", have several advantages over CCDs. Whereas CCD sensors output an analogue signal that needs to be processed by separate chips, in CMOS sensors, amplification and analogue to digital conversion are achieved within the sensor. This integration eliminates the need for extra chips, which allows for space, heat and power savings. CMOS sensors are manufactured in a similar way to other chips and can take advantage of the scalability and efficiency of these manufacturing processes.

Several manufacturers have proprietary technologies that all claim to improve on traditional sensor design. Fuji has Super CCDs <http://www.fujifilm.co.uk/digital/>; Sony has a RGB+E sensor. <http://www.sony.net/SonyInfo/News/Press/200307/03-029E/> and there is Foveon's X3 sensors that can capture red, green and blue at each photosite http://www.foveon.com/X3_tech.html unlike the standard Bayer filters used on other cameras.

Most photography experts believe that 5 to 6 megapixel cameras are adequate for most users who want to produce standard size prints. Moreover, research shows that printing of photographs is in decline (PMA). The ability to instantly view, share and delete images, hard disk storage, CD-Rs, email and MMS have all contributed to this reduction in printing. Generally, resolution is less significant for images that are only intended to be seen on electronic displays. However, for cropping and other digital editing, having higher resolution pictures is advantageous. Ultimately, users need to assess what a camera will be used for and decide the minimum resolution necessary to achieve their aims. The quality of pictures produced by different cameras varies considerably and the megapixel count of sensors is only one factor to consider. For compact digital cameras with smaller sensors, large pixel counts may actually produce worse quality images in certain conditions.

Multimedia news

Detachable laptop displays

Samsung have announced a new laptop with a 19-inch display. In addition to being the largest available laptop size, the display can be detached and double as a desktop monitor. The unit does however weigh 4.4kg (double many 15" laptops) and is difficult to fit in some laptop bags. Displays are one of the most expensive components in laptops and are prone to damage or failure. The ability to easily upgrade or replace laptop screens could be attractive. Samsung has also announced a new development in TFT-LCDs with flexible plastic substrates. The new technology enables the use of thinner, flexible plastic materials with potential applications such as larger mobile phones and PDA displays. The prototype is a seven-inch display at 640x480 resolution, double the size of previous efforts.

<http://www.technewsworld.com/story/47553.html>

http://www.samsung.com/uk/products/mobilecomputing/multimedia/np_m70t001suk.asp

Sony demonstrate E-Ink e-book reader

Sony has launched an updated version of its e-book reader device in the US. Previously only available in Japan, the Sony reader uses digital paper technology from E-Ink. E-Ink uses liquid filled microcapsules containing black and white chips that move to the surface when a positive or negative charge is applied. An Electronic ink display offers several key properties which give it an advantage

over current display technologies in particular applications. It can offer resolutions approaching that of print. It is a reflective technology that is readable in a variety of light conditions, including bright sunlight. It has a wide viewing angle and consumes little power as the displays do not need power to retain an image only to change it (bistable). It is possible to make thinner, lighter displays than at present. They should eventually be cheaper to produce than LCD and in the next few years flexible versions may be available.

http://products.sel.sony.com/pa/PRS/?DCMP=reader&HQS=showcase_reader

Digital TV signal update

A report from Ofcom suggests that up to 10% of homes will be unable or unwilling to receive digital TV signals when the analogue signal is turned off between 2008 and 2012. The cost of new aerials and set-top boxes is estimated at around £572million. The government, through the BBC licence fee will be supporting vulnerable households, but there is unlikely to be specific help for those who simply refuse to change. Ofcom has also launched a consultation to look at future uses of the sub 1Ghz spectrum that will be freed up after the switch off of analogue television.

http://www.ofcom.org.uk/research/tv/reports/dsoind/cost_power/cost_power.pdf

<http://www.digitaltelevision.gov.uk/>

http://www.digitaltelevision.gov.uk/sscheme/sscheme_home.html

Cable and satellite TV moves towards HDTV

The competition in the Pay-TV market continues to drive innovation. In parallel with the BBC announcement of High-definition television (HDTV) trials in 2006, Sky has announced a new set-top box that will support HD pictures for a number of its channels if there is a compatible TV set. The box will also incorporate a Sky+ PVR (personal video recorder)

Telewest, who recently launched "Teleport" TV-on-demand, is also expected to finally launch its PVR system early this year. This hard disk video recorder will allow simultaneous recording of two channels while watching a third. This is also expected to support HDTV.

<http://www1.sky.com/skygnome/>

http://www.bbc.co.uk/pressoffice/pressreleases/stories/2005/11_november/08/hdtv.shtml

<http://hd.sky.com/>

<http://www.telewest.co.uk/>

Next generation DVD formats

Manufacturers are preparing to launch HD DVD and Blu-Ray systems in the US in March/April 2006 respectively. HD DVD is expected to have a greater choice of hardware initially with more Blu-Ray systems becoming available later in the year. PC based systems are expected to follow some time after. Some 150 titles are expected to be available initially for HD DVD. The Sony PlayStation 3 is likely to be the most significant launch for the Blu-Ray camp this year. Both formats offer increased capacity, higher read/write speeds and support for interactive features (see TechNews November 2005).

http://www.theregister.co.uk/2006/01/05/hd-dvd_march_debut_us/

http://www.theregister.co.uk/2006/01/05/samsung_blu-ray_first/

Mobile TV developments

There are two main competing standards for digital TV for mobile devices. The DMB (Digital Multimedia Broadcasting) standard supported mainly by manufacturers such as LG Electronics and Samsung and the competing DVB-H (Digital Video Broadcasting - Handheld) which is supported by most of the remaining handset manufacturers including Nokia and Sony Ericsson.

The German state of Baden-Württemberg is trialling DMB technology to launch four commercial mobile TV channels and two radio channels in 2006, around the time of the World Cup. Finland, following a successful pilot last year, is expected to award an operating license based on DVB-H. A number of companies such as Sky, Vodafone, T-Mobile, 3 and Orange are already making video clips and TV available over 3G, but this is not seen as efficient use of the .networks.

BT has successfully trialled DMB television and radio broadcasts to mobile phones with largely positive results. BT is in talks other operators to offer its Movio TV service to users.

http://wireless.itworld.com/4268/060103germantv/page_1.html

http://www.theregister.co.uk/2005/11/14/license_mobile_tv/

BBC put more historical content for download

The BBC has released more historical news material under its Creative Archive Licence. This joins the existing wealth of material available online for personal and educational use. The new material covers key events from the past 50 years including footage of the fall of the Berlin Wall, activists in Tiananmen Square and the England World Cup winning team of 1966.

<http://creativearchive.bbc.co.uk/>

Sony –BMG CD copy protection

Sony stirred up controversy late in 2005 with a copy protection system it included with music CDs sold in the US through the Sony-BMG brand. The licence agreement for the music allows copies to be made on a limited number of computers and to enforce this the CD could only be played through a self-installing player when used on a computer. This caused controversy as the player installed a rootkit that potentially opened up computers to attack. Rootkits are increasingly being used to hide malicious software from detection. Eventually Sony agreed to replace the CDs and offer compensation to all affected users, but this case highlighted some of the different and often problematic approaches to Digital Rights Management (DRM). The Electronic Frontier Foundation filed a lawsuit against Sony as part of this affair, though was subsequently settled without any admission of liability. The affair also highlighted issues with the End User License Agreement (EULA) that accompanies the installation of most software, as most users do not read or understand them. The CDs have now been recalled and a patch issued to remove the software.

<http://www.eff.org/IP/DRM/Sony-BMG/>

<http://www.sysinternals.com/blog/2005/11/sonys-rootkit-first-4-internet.html>

<http://www.sysinternals.com/blog/2005/11/more-on-sony-dangerous-decloaking.html>

<http://www.eff.org/deeplinks/archives/004145.php>

LED technology found in butterflies

Scientists, who developed new technology to make more efficient LEDs, have discovered that they were beaten to it by African swallowtail butterflies. The natural world continues to provide the pharmaceutical and cosmetic industries with new materials and drugs, but scientists have also been studying other ways where evolution can be applied to solve modern problems. Other recent work has included studying ants to form the basis of autonomous systems that might be applied in space missions.

http://news.nationalgeographic.com/news/2005/11/1117_051117_leds.html

<http://news.bbc.co.uk/1/hi/technology/4378162.stm>

Nikon to drop film cameras

Nikon has announced that it is significantly reducing its output of traditional film cameras to just two models in order to concentrate on digital cameras. This move underlines the rapid adoption of digital cameras, which are now mainstream products. Market estimates from analysts IDC suggest that 94 million units will be sold worldwide in 2006, but at the same time dedicated digital cameras are facing competition from camera functions integrated into other devices such as mobile phones and PDAs and some analysts expect the growth in sales of dedicated digital cameras to slow after 2007.

http://www.nikon.co.uk/press_room/releases/show.aspx?rid=201

Hardware

Analysis: Next generation games console technologies

Two of the most wanted Christmas presents in 2005 were the new Xbox 360 games console and the Sony PlayStation Portable (PSP). Arcade games and games consoles go back many years, but now the devices are moving away from just being sophisticated “toys” to being networked appliances, part of a wider battle for content delivery and control of the digital living room.

The next 12 months will see the launch of two more of these "seventh-generation" consoles – the Sony PlayStation 3 and the Nintendo Revolution. There's more at stake than just the games console market and some commentators suggest these devices could have a major part to play in deciding the future of the digital home, where online delivery of content is the norm and where music, photos and video are streamed around the house to a variety of devices.

The console market has seen rapid evolution, since the early cartridge and cassette based Atari models. Sony currently holds some 70% of the global console market and Nintendo and Microsoft share the remaining 30% equally. Analysts at Wedbush Morgan Securities expect worldwide PlayStation 3 and Xbox 360 sales to be tied at 23 million units each in 2007, while other analysts suggest Sony will hold onto their significant market lead. The size of the market is expected to peak at some \$21.9 billion in 2008. It is normal practice for console manufacturers to sell the hardware unit at a loss and to make profits on content.

<http://www.xbitlabs.com/news/multimedia/display/20051121094154.html>

<http://biz.yahoo.com/bw/051116/20051116005473.html?.v=1>

The main advantage of games consoles over desktop computers is their homogeneity. PCs can typically have hardware components sourced from hundreds of competing companies and run a software environment where even more vendors' products compete for space and control. Consoles are much simpler and each company's product has a standard hardware and operating environment. This can make them less expensive, more reliable and easier to use – though much less flexible.

The Sega Dreamcast was the first console to focus on online connectivity and modern consoles are being designed with networking, broadband and interoperability in mind. Currently this is focussed on providing gamers with human opponents but it is widely recognised that the future for consoles is online content delivery. This requirement is leading to increasing use of hard drives in consoles. Online connectivity is an important user requirement for portable as well as fixed devices and there is growing interest in the use of the Sony PSP as a mobile online content access device for education as well as leisure applications.

Each of these three major players has a slightly different expectation for their devices that go far beyond selling games. Sony and Microsoft are competing at the "muscle" end of the console market and have designed incredibly powerful devices that are able to render high definition, detailed graphics at high speed. Nintendo, with the Revolution, have announced they are concentrating on game experience rather than raw power. This is likely to be achieved through a simpler architecture that is easier to program and advances in usability such as the innovative controller design that senses the angle at which it is being held. IBM provides the chips for all three devices.

Sony will be shipping the PlayStation 3 with a Blu-Ray next-generation DVD drive. The PlayStation 2 was massively influential on the DVD market as it was cheaper than most of the dedicated DVD players at its time of launch. Sony hopes that the PlayStation 3 will repeat this effect and help Blu-Ray become the victor in the next-generation DVD competition. Microsoft has announced that an HD-DVD drive will be offered as an accessory.

Another technology set to gain from the next generation consoles is High Definition TV (HDTV). This higher quality video standard is slowly being adopted by TV manufacturers and broadcasters, but HDTV display prices are currently high, with low demand. 2006 will see Sky launch HDTV services and the BBC will begin trials. These consoles will increase the size of the market of devices that would benefit from HDTV displays and could accelerate mass take-up. A study earlier this year suggests that 10 million homes worldwide currently have HDTV sets, which is expected to rise to 52 million by 2009.

http://news.com.com/HDTV+market+to+boom,+study+says/2100-1041_3-5643466.html

Microsoft sees the Xbox 360 as part of the "digital living room". The device will be able to stream music and video from Windows Media Centre PCs and provide a link between the PC and the television. Users will be able to view PC stored content on their televisions through the Xbox 360 and directly connect cameras and media players to the device. This sort of functionality widens the appeal of the consoles to a much broader market. Sony talks about the PS3 as a hybrid device and not just a

games console. However, there will be issues over DRM and the interoperability of consoles with other devices from different manufacturers.

All companies are keen to engage users in more ways than merely playing games. The Nintendo GameCube was able to use a Nintendo Game Boy Advance as an additional controller/input device and there is likely to be a link between the PlayStation 3 and the PlayStation Portable. Microsoft has looked outside for partners. It recently announced that games will link out to gamers' mobile phones (<http://news.bbc.co.uk/2/hi/technology/4534356.stm>).

Games require such a large investment to develop that the wider leisure market is likely to continue to take priority over smaller markets such as education. There are educational applications for some general leisure software, but these tend to be of limited value. The main educational possibility for games consoles is as reliable internet access devices to access online content. Increasingly educational content is being delivered using internet standards, as exemplified by BBC Jam.

For some time consoles have been touted as one means of addressing the digital divide, offering online access without a PC. Potentially many more homes will have these devices than PCs, but the software can be a limiting factor. For example while a PC is an open development platform and all manner of software, connectivity and plug-ins for online services are available, if a console manufacturer does not choose to support software it is generally unlikely to be available. For example while the Xbox 360 can connect to specific online services using broadband, Microsoft has not announced a general purpose web browser. Third party development for consoles is more expensive and more tightly controlled.

New consoles are roughly the price of a value-market PC. There are cheaper alternatives such as the Nokia 770 Internet Tablet and the AMD Personal Internet Communicator (PIC). The PSP, one of the few consoles offering general connectivity as standard, offers the most in this area at the moment. Each of these low-cost, console-like devices offer a lower Total Cost of Ownership than a PC device because of the limited need for support, upgrades and lower risk of viruses and other hacks.
<http://europe.nokia.com/nokia/0,1522,,00.html?orig=770>
http://www.amd.com/us-en/ConnectivitySolutions/ProductInformation/0,,50_2330_12264,00.html
<http://www.becta.org.uk/research/research.cfm?section=1&id=519>

Hardware news

Processor news

Intel and AMD have both hinted at their future strategy as they move away from competing on faster and faster chips, with new branding announcements. Intel has changed its logo and launched new brands for chips and platforms. VIIV (home entertainment), Centrino (single core) and Centrino Duo (dual core) branded platforms; Core Solo, Core Duo and Pentium D processors. They have announced an ethnographic approach to future development where market segments, such as healthcare, will be targeted specifically rather than with generic chips. AMD has also launched the AMD LIVE! brand for media centre desktops and notebooks. These announcements highlight the importance of the living room as one of the next PC battlegrounds and the lower profile of "clock speed" as a measure of processor performance.

<http://download.intel.com/pressroom/archive/Intel%20New%20Brand%20Architecture.pdf>

http://www.amd.com/us-en/Corporate/VirtualPressRoom/0,,51_104_543~103717,00.html

Dual PDA/Windows XP Tablet handheld device

DualCor has announced a new handheld device that combines a Windows Mobile PDA and a Windows XP Tablet PC in one compact unit. This device has two processors – one for the PDA and one for the Windows PC-but shares storage and memory between the two operating systems. It has a 5" display and can be plugged into external peripherals such as monitors. It can also be expanded with USB or CF wireless cards. There have been other handheld Windows XP devices such as the

OOO Model 1, but DualCor's cPC seems to be the first device to combine traditional PDA advantages of "instant-on" and low power requirements, with the added power and flexibility of a PC. The cPC was demonstrated at the Consumer Electronics Show and is expected to be launched in March. However, its price is likely to make it a niche product. Handtop PCs are expected to become more popular over the next few years with major companies such as Intel and Microsoft involved in their development.

<http://www.dualcor.com/>

\$100 laptop design shown

Prototypes of the MIT/Negroponte \$100 laptop were demonstrated by the Secretary-General Kofi Annan in November. This device, aimed at children in the developing world, was announced in January 2005. Quanta Computer Inc. of Taiwan has been chosen as development manufacturer and in Q4 2006 will support a 5-15 million units large-scale pilot project in China, India, Brazil, Argentina, Egypt, Nigeria, and Thailand. A commercial version of the device has not been confirmed, but will be explored. Quanta is the world's largest manufacturer of laptop PCs and manufactures mobile phones, LCD TVs, servers and storage products for companies including Dell, HP, and IBM. The hope for the laptop is that it will revolutionise access to education for children in poorer countries. It will be portable, battery powered (supported by a winding crank) and network wirelessly.

<http://laptop.media.mit.edu/>

First Intel based Apple computer launched

Apple Computers showed their first devices based on Intel processors at the recent MacWorld Expo in the US. Apple announced its intention to move to Intel processors last year (see TechNews July 2005). The Intel Core Duo based Macbook laptop and iMac desktop are the first machines to use the new chips. All Apple computers are expected to be on the new platform by the end of the year.

<http://www.macworld.com/news/2006/01/10/macbookpro/index.php>

<http://www.techworld.com/opsys/news/index.cfm?NewsID=5131&email>

PlayStation Portable launched

More than 185,000 PlayStation Portable handheld consoles were sold in its first four days in UK shops. While firmly a games console, the device is also able to link wirelessly with other consoles, connect to the internet and be used to watch movies or listen to music. Third party software is available to let the device connect to internet chat rooms, send text messages and act as a PDA. The browser and media centre are expected to be subject to more development to improve features and compatibility. For example Sony released the PSP Media Manager to manage content on the device from a connected PC. At the recent CES show Sony demonstrated a new device that allows TV to be wirelessly streamed to a PSP over Wi-Fi. There is also an increasing range of third party hardware and software available for the device.

<http://www.sonymediasoftware.com/products/showproduct.asp?pid=995>

http://uk.playstation.com/home/home01_generic.jhtml?locale=en_GB

Importance of processor power consumption

For operators of larger servers, especially blade clusters that combine many computers in a compact space, HVAC (heating, ventilation and air-conditioning) issues are becoming increasingly important. Often the installation of a new server has to be accompanied by new power systems and in extreme cases, substations. Manufacturers are beginning to address these issues and performance per Watt is now an important benchmark for processors. For example, the latest Ultrasparc chip offering from Sun is between half and a third as power hungry as comparable server-class chips.

<http://www.sun.com/smi/Press/sunflash/2005-11/sunflash.20051114.2.html>

Microsoft signal entry to Cluster computing market

Microsoft has entered the high performance computing market with the new Windows Compute Cluster Server 2003. Cluster computing is based on sharing tasks between a number of computers who work on elements in parallel and yet are managed as single virtual system. This is not only significant because it represents Microsoft's entry into a new market, in competition with Sun, IBM and Linux systems; but also because the software will only work with 64-bit processors. 64-bit processors

are become more common throughout servers and entering the desktop market, but are by no means standard. The next version of the Microsoft Exchange collaboration and email server is also expected to require a 64-bit hardware platform.

<http://www.microsoft.com/windowsserver2003/ccs/default.msp>

Home Media Centre friendly PC cases

As the media centre becomes the focus for home computing a number of manufacturers are releasing PC cases that are more at home under the television than on a desk. These cases are designed to be used with wireless keyboards and mice and commonly have TV tuner cards to work as a digital video recorder. Small Form Factor PCs can benefit from changes in motherboard designs. The BTX standard, for example, is available in a number of compact formats to support small case designs. However, the mass market has been resistant to changes in motherboards, despite the fact that popular designs are over 10 years old and met different layout requirements for component cooling. For example in a modern motherboard only the CPU needs cooling, so should ideally be placed closer to the exterior fan. Some examples of PCs using small form factors and media centre cases are:

<http://www.pcw.co.uk/personal-computer-world/hardware/2145249/advent-dhe-1000?vnu lt=pcw art related articles>

<http://www.pcw.co.uk/personal-computer-world/hardware/2146311/shuttle-m1000>

http://eu.shuttle.com/en/DesktopDefault.aspx/tabid-72/170_read-11520/

<http://www.tranquilpc.co.uk/>

New flexible battery technology

NEC has announced a new battery technology based on an organic radical polymer. Known as the ORB (Organic Radical Battery) the battery takes the form of a flexible gel which enables batteries to be thin and malleable. The battery will charge very quickly and is expected to initially be used in small, ultraportable applications such as powering active RFID tags. If development to increase the performance and capacity of the gel are successful, it could be used to power devices in virtually any size and shape.

<http://news.zdnet.co.uk/hardware/emergingtech/0,39020357,39241049,00.htm>

<http://news.bbc.co.uk/1/hi/sci/tech/4545252.stm>

The future is wearable

Materials Scientists recently held a futuristic fashion show to showcase new trends in wearable computing and smart clothing. At the moment these are restricted to basic items such as ski-jackets with integrated MP3-player controls, but scientists are expecting medical clothing with built in sensors to be amongst the early uses of miniaturised wearable computers. Also in development are materials engineered to repel dirt by replicating natural engineering, such as the surface of a lotus leaf. Socially aware clothing, such as materials that change colour based on location, movement and pressure are still a few years away according to MIT Professor Sandy Pentland "I think we'll most likely be seeing those first in fashions in nightclubs over the next couple of years,".

<http://www.wired.com/news/technology/0,69772-0.html?tw=rss>

Software and internet

Analysis: Instant Messaging

Instant Messaging is one of the most popular social uses of the internet. Fitting between telephones, chat rooms and email it provides easy communication between individuals and small groups. Derided by many systems administrators for having security implications, the same technology has recently been the target for developers seeking to deliver flexible corporate applications for communication and collaboration.

There are a number of well-known public Instant Messaging (IM) systems. The best known are ICQ and AOL Instant Messenger (AIM) (owned by AOL), MSN Messenger (Microsoft) and Yahoo! Messenger (Yahoo). Combined, these have some 130 million active users from a much larger

registered user base. Until recently many employees and students were installing and using IM applications without the consent or control of IT departments. This phenomenon caused many organisations to ban instant messaging entirely. However, organisations are now beginning to embrace the technology, which is seen as offering complementary attributes to email and voice communication.

Instant messaging is seen as having several advantages. One of the key benefits is "presence", the ability to know which of your contacts is online, their activity and even their location. This can have significant productivity gains as it is estimated that 60% of business phone calls result in callers leaving voicemail. The immediacy of IM makes it invaluable for time sensitive communications, quick questions, clarifications, co-ordination of schedules and other collaborative tasks. The user can get immediate feedback and is able to carry on other activities during the communication process.

The core function of Instant Messaging is the exchange of short text messages. This has been extended by some providers to include external links to other services such as SMS; voice and video communications; application sharing; shared whiteboards; gaming; photo sharing and file transfer. Organisations find IM excellent for work collaboration, help desks, and customer service and support. IM is also beginning to make some progress in education as a tool for interacting with teachers and collaborating with peers. However, in education and businesses non-productive, social use of IM is also a problem.

Most Instant Messengers, including ICQ, use central servers to authenticate logins. There is no single standard for Instant Messages though there have been some links between different services (ICQ and AIM; Yahoo! and MSN). A number of multi-messenger clients have been created to bring together different services in the same interface - though not actually allowing messages from a user on one service to be sent directly to a user on another. More recently MSN and Yahoo have announced plans to allow users of their IM services to exchange messages.

Some open standards for Instant Messaging do exist such as XMPP and its Jabber extensions (supported by Google Talk, Apple, Sun and Oracle). These are designed to encourage flexibility and interoperation, but have not had significant successes in comparison with the major private branded messenger systems. XMPP is a good messaging standard, but offers less support for other media, making it less suitable for unified communications systems. A competitor with XMPP is SIMPLE (Session Initiation Protocol for Instant Messaging and Presence Leveraging Extensions) which is based on the IETF SIP (Session Initiation Protocol) as used for setting up voice, video and conferencing connections. SIMPLE is not yet an IETF standard and is still in development. It also currently lacks much functionality such as group chat, file transfer, and message formatting which are currently provided through proprietary extensions. It is supported by most major communications vendors particularly Microsoft and IBM.

There are also more serious issues associated with IM related to security, privacy, and protection of data. IM applications can be easily installed by users and can bypass many firewalls. IM can spread worms and viruses, allow attackers remote access to systems and disclose sensitive data. Instant messages are not usually encrypted and authentication is weak allowing impersonation of users. Companies are concerned about the need to archive all communications to meet legal requirements. SPIM, or IM spam, is also an increasing problem.

Instead of denying access to instant messaging, companies are now seeking to manage and control it. Many specialist suites (eg IMlogic, Akonix) are available to control and track usage, log messages, block trojans and viruses, encrypt data and provide a gateway between the organisations's IM and the internet. Enterprise class IM applications are also available from vendors such as IBM and Microsoft, but the majority of organisations prefer to use the freely available IM clients with third party management suites.

Unified Messaging systems seek to bring these functions together. For example the Microsoft Live Communications Server indicates user status as a flag when reading emails, allows data sharing and can interface with voice systems to automatically dial conference calls. This server will also link its private Instant Messenger users with the external users of the AOL, Yahoo and MSN systems. Open

source Instant Messaging servers, such as the Wildfire Server (<http://www.jivesoftware.org/wildfire/>) which uses Jabber are also available.

Recent developments in public Instant Messaging services include the increased use of computer-controlled participants – so called "bots". These are programmed to respond with particular information when questioned such as stock prices or topics such as digital camera guidance. In addition to these automated systems, some companies have staff available via Instant Messenger to answer questions and offer advice on their products in a similar way to a sales telephone line. IM-like facilities, such as chat and presence, are also being used as part of other applications, rather than in isolation. Online teaching software, such as WebCT, offers Instant Messaging services within the closed user community.

There certainly are possibilities for using Instant Messaging to support collaboration and communication, if secure environments are established. The need for moderation is often quoted as a reason to avoid real-time communication like this, but by using enterprise class systems or add-on management systems, IM can be controlled and monitored. The future is likely to see a growth in interoperation, such as the recent announcement of connections between the Yahoo and Microsoft services, but these are about market growth and competition rather than open standards. IM is set to continue its growth and is increasingly found on mobile devices and games consoles.

Software and internet news

Becta announces a review of Microsoft licensing programmes for schools and colleges in UK

Becta is to undertake a value for money review of Microsoft's educational licensing programmes and their impact in the UK. The review will include the range, scope and cost of academic licensing models available, covering the degree to which they meet the needs of UK schools and colleges and represent value for money. The review will pay particular attention to Microsoft's subscription licensing models and the risks associated with non-perpetual licences. It will examine the total costs of exiting those licence agreements and the corresponding risks of 'lock-in'. If risks are found, the report will seek to identify mechanisms whereby schools and colleges could mitigate those risks and protect their investment. Becta will also consider the educational advantages of schools and colleges adopting the updated versions of Microsoft products to be launched in 2006 (such as the proposed Vista Operating System, or the Office 12 suite), or whether the balance of educational advantage for institutions is to continue using current versions. In doing so, the review will consider what length of software refresh cycle might be suitable for an institution. Finally, the report will also focus on ways to improve access to alternatives to Microsoft products to ensure that there is a freedom of choice. The interim report will be available by June 2006.

http://www.becta.org.uk/corporate/press_out.cfm?id=5006

National review to ensure effective home ICT access to enable continuity of learning between a student's home and school

Becta has announced a review of software licensing and document interoperability issues in relation to home and school computer use. The review will analyse ways in which both pupils and parents can cost effectively acquire the applications and licences necessary when working on the same document on either a home or school computer. It will also address compatibility issues when a home computer runs different office productivity products to those used at school. Becta will also explore the licensing implications when a pupil or a parent logs on to a school system, and uses resources and applications on those systems. Becta will consult with a range of bodies when developing its report, including the providers of office productivity software, head teachers, LEAs and Regional Broadband Consortia (RBCs), the Office of Fair Trading, and the Office of Government Commerce. An interim report is expected to be available by August 2006.

http://www.becta.org.uk/corporate/press_out.cfm?id=5011

Competing office formats seek standards backing

There is an increasing focus on open document formats due to concerns over vendor lock-in, interoperability and format obsolescence. Last year the US state of Massachusetts decided to

standardise on office products that supported an open document format over closed proprietary alternatives. At the time this ruled out the market-leading Microsoft Office suite. However, Microsoft, in coalition with Apple, Intel and others, has said it will be submitting the XML document formats used in the forthcoming Office 12 to Ecma International to become an international standard. They may then be submitted to the ISO. The OpenDocument Format (ODF) backed by Sun, IBM and the open source community is the major competing format. These moves are likely to benefit all users and promote choice, as compatibility across different products is sure to follow any standardisation. http://www.cbronline.com/article_news.asp?guid=A309EFB2-49BD-43B1-B686-0A309D8CF38F

UK e-government news

A new report commissioned by the UK government has highlighted how government services are moving on from simply replicating existing services electronically, to being able to provide completely new services to their users. This growing maturity in "t-government" (technology-enabled government) is seen as the next stage of service delivery. One of the case-studies highlighted is the streamlined Universities and Colleges Admissions Service (UCAS), which is expecting 90% of applications this year to be completed online. This development has led to a reduction of 90% in the clerical staff required to support the service and improved satisfaction.

http://www.bah.com/bahng/SilverDemo?PID=Home.html&contType=TABLE&dispType=HTML&Region=&Geography=&language=English&Taxonomy1=&Taxonomy2=&Taxonomy3=&SortBy=dateline+DESC&GroupBy=dateline+by+month&FORM_ACTION=BROWSE&style=item&sCacheID=&sNumHits=0&sNumJobHits=0&sNumVideoHits=0&ITID=671307

US retains control of internet at UN summit

Delegates at the World Summit on the Information Society failed to persuade the US to hand over control of the naming and numbering of the internet to the United Nations. There had been moves from many countries, including China, to move control of IP address allocation and DNS functions away from ICANN (a non-profit US body subject to a veto by the US government) to an international organisation.

<http://www.itu.int/wsis/>

<http://www.icann.org/>

<http://www.icannwatch.com/>

Open Source update

IBM, Novell, Philips, Red Hat and Sony have formed a new company to promote collaborative use of patents and other open source developments. The Open Invention Network will hold patents that are available, royalty-free, to anyone that agrees not to use Linux-related patents against other OIN participants.

<http://www.openinventionnetwork.com/>

Linux is the operating system of choice for four of the top five supercomputers in the recently published league table. Supporters claim this demonstrates the flexibility and power of Linux compared to alternatives.

<http://top500.org/lists/2005/11/>

Open source software has been highlighted in a Dutch study on the affordability of software outside of the US and Europe. The price of Windows XP and Office XP on Amazon.com is equivalent to 16 months of GDP per capita in Vietnam and 3 months in South Africa.

http://firstmonday.org/issues/issue8_12/ghosh

NewsForge, the company behind the world famous Slashdot site, has released a number of free videos to showcase functions of the OpenOffice suite. These have been made available in Macromedia Flash format under a Creative Commons license.

<http://business.newsforge.com/business/05/11/09/2044220.shtml?tid=35&tid=136&tid=130>

Gartner advises delaying Windows Vista deployment until 2008; Graphic subsystem changes

<http://it.slashdot.org/article.pl?sid=05/11/11/221226&from=rss;>
<http://www.techworld.com/news/index.cfm?RSS&NewsID=5002>

Analysts Gartner have suggested Windows XP users can leave widescale adoption of Windows Vista until 2008, despite an expected launch in 2006. This is to ensure stability and support and avoid any teething problems that might affect a new operating system. Windows 2000 users are encouraged to upgrade earlier as the differences will be more significant. Gartner recognise that Vista should have increased security, but says that much of the functionality is available through third party vendors.

Microsoft has announced that the graphics subsystem in its future Windows Vista operating system will move outside the system kernel. The Windows Presentation Foundation is being so designed as a number of system freezes are actually caused by problems with the graphical user interface (GUI) rather than the actual program execution. In some respects this is a reversal of direction for Microsoft who brought the GUI into the kernel with Windows NT4 in 1990. This decision was made originally to improve performance, but modern hardware is considered sufficiently powerful without the acceleration gained by integration with the kernel.

Microsoft has also announced improved online services under the Windows Live and Office Live brands. These will include a number of online services including improved online email, messenger and other subscription based services that small companies or organisations can buy into on-demand. This variation on the application service provider (ASP) model could provide a gradual transition from completely locally sourced services.

<http://www.techworld.com/news/index.cfm?RSS&NewsID=5002>
<http://www.microsoft.com/presspass/press/2005/nov05/11-01PreviewSoftwareBasedPR.msp>
<http://news.zdnet.co.uk/software/windows/0,39020396,39236741,00.htm>

IBM develop business solutions for "blog-watching"

Blogging continues to attract interest from business. First there were concerns about individuals using work-provided network connections to write personal blogs; then there was corporate adoption of blogs as a way of communicating with customers and making them feel close to the product development cycle. Now IBM has developed software to search and monitor blogs for mention of a company's products and services. This highlights a change in how information is published on the internet and a growing focus on individual commentator opinion over corporate press release. The ability of search engines to analyse and categorise information from these sources is seen as a key development.

<http://www.internetnews.com/xSP/article.php/3562116>

Frappr application for Google Maps

One application to emerge from the Google Maps programming community is Frappr (<http://www.frappr.com/>). This site allows groups of users to create shared custom overlays on maps, showing their locations and short profiles. Many virtual communities exist without any reference to their members' locations, but Frappr gives interesting social insight into the people behind the screen names. Frappr is an example of a next-generation web application. It has been created by taking a number of existing data providers and services, combining them and delivering an experience different than the parts. The Google Maps API is freely available to anyone wishing to develop add-on services.

<http://www.frappr.com/>
<http://maps.google.com/>

US Court shuts down Spyware companies

Three companies in the US, investigated for bundling spyware with software, have had their assets frozen by US courts. This action, followed by an investigation that involved Microsoft and Google, demonstrates a growing enthusiasm for a crackdown. The malicious software in question tracked victims' internet activity, hijacked their home pages and deluged them with unwanted "pop up" ads, the U.S. Federal Trade Commission said. Spyware is the subject of developing legislation in the US

and the U.S. House of Representatives passed a bill in May that would stiffen jail sentences and establish multimillion-dollar fines for spyware purveyors, but the Senate has not yet taken it up. These developments are positive, but are faced with a massive business relying on such software. Like spam email, these problems are unlikely ever to be completely solved and rely on a combination of legal efforts, protective software such as anti-spyware programs and user education to minimise their impact.

<http://www.techspot.com/news/19393-three-spyware-companies-shut-down-by-us-courts.html>

Using European Law, Nigel Roberts caught the imagination of many net users recently by winning £300 compensation in a settlement from a "spam" emailer. Nigel traced the source of an unsolicited commercial email (UCE) and obtained compensation. Nigel is documenting his case on the <http://spamlegalaction.pbwiki.com/> website and plans to offer an easy toolkit to help anyone take action against such direct marketing tactics. The laws Nigel used tend to be employed by large companies to combat spammers, but he has shown that it is possible for the individual to succeed too.

Direct email marketing company pursued under EU legislation

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