

Tech success stories 2006

EDWARD APURBA SINGHA

THE last year was an exciting year for technology. So many new techs and gadgets came out that it was really hard to keep track of them.

Most of these breakthrough technologies will help us materialise our impossible dreams in the years ahead and at the same time give us freedom to enjoy our life.

Nowadays, due to the unprecedented technological advancement, it is possible to enjoy panoramic view of the Mars's surface, detect isolated nuclear blast site and even watch live telecasts of war.

In this article I basically highlighted several technologies that took a giant step last year and will certainly enrich our experience this year and many years to come.

Operating systems

After many years of waiting, Microsoft finally came up with Vista, the latest version of the Windows operating system. Microsoft made several enhancements in Vista and at the same time fixed many security bugs. Unlike XP, Vista can use a computer's GPU for multiple tasks simultaneously. Vista will likely change information management and data storage as well. Vista's integrated 'reliability monitor' can show a chart that informs you about the system stability.

On the Linux side, XGL, the revolutionary graphics technology and Compiz, one of the first compositing window managers for the X Window System that is able to take advantage of OpenGL-acceleration, has revolutionised the Linux world.

Microprocessor

Both Intel and AMD were playing with dual-core and quad-core chips last year and there are more to come this year.

Intel's Yonah that replaced Pentium M and Core 2 replacing Pentium processors has revolutionised PC and mobile computing and there are more to come. AMD Athlon 64 X2 Dual-Core also delivers real power boost and its performance has won many battles against their archrivals.

But in order to enjoy the multi-core facilities the software issue is an important consideration. Software must be redesigned to take the advantage of parallel processing on a large scale. Adobe's video applications already have elements that can utilise many cores. With eight cores dramatic performance expected in complex programs such as games, search technologies etc.

Game consoles

PHOTOTECH



ALC-MOBILE

Japan's second largest mobile operator KDDI engineer Munezumi Wada demonstrates the alcohol tester "Alc-Mobile" that will let bus and taxi companies know if their drivers drink alcohol or not at the KDDI's headquarters in Tokyo on December 28, 2006. The alc-mobile, a two-piece set of a breathalyzer and telephone which can measure levels of intoxication and immediately send the results to their company's computer via the phone. Four hundred sets of ALC-Mobile have been sold to over 30 companies at a price of USD 750 each. Japan had nearly 14,000 drunk driving accidents last year, killing 707 people.

PHOTO: AFP

residential users, IPTV is often provided in conjunction with video on demand and may be bundled with internet services such as Web access and VoIP.

The commercial bundling of IPTV, VoIP and internet access is referred to as a triple play. Adding the mobile voice service leads to the quadruple play denomination. IPTV is typically supplied by a broadband operator using a closed network infrastructure. This closed network approach is in competition with the delivery of TV content over the internet. This type of delivery is widely called TV over internet or internet television. In businesses, IPTV may be used to deliver television content over corporate LANs and business networks. Perhaps a simpler definition of IPTV would be television content that, instead of being delivered through traditional formats and cabling, is received by the viewer through the technologies used by computer networks.

Last year the growth of IPTV was massive. And with the massive growth of Broadband, IPTV is expected to grow at a brisk pace.

Blu-ray and HD DVD

In order to meet the huge storage requirements, new storage technology such as Blu-ray and HD DVD came into reality. Initial storage capacity of a Blu-ray disc is 25 GB for a single layer and 50GB with dual layer. Prototypes have already been developed by TDK that will take this to 100GB & 200GB. Sony's next generation PlayStation 3 console will have Blu-ray capability.

The initial capacity of HD DVD (High Density DVD) is around 15GB for a single layer disc and 30GB for a dual layer version. In its present shape the capacity is unable to go beyond that due to the position of the recording layer further away from the disc surface.

iPod Nano

iPod revolutionised the personal digital music world. iPod gained the popularity with its simple and user-friendly features. Although introduced in late 2005 the iPod Nano, Apple's fourth digital audio player that replaced the iPod mini, gained popularity last year with its sleek outlook and 4GB, 2GB and 1GB sizes.

InFocus IN76 BigPlay

Why waste so much on 50-inch HDTV or a PDP TV when you can watch a high quality video and that too not on a 50-inch TV but on a 12-feet display. Yes, with the InFocus IN76 BigPlay projectors, that came out early this year has blown away every other home theatre solution.

Even though it's just 720p, it can be blown up to 12 feet across the wall. In addition, the saturation is great. With a decent price and very decent design, it may be the most consumer-friendly projector out there.

Amstrad CPC

The Amstrad CPC was a series of 8-bit home computers produced by Amstrad during the 1980s and early 1990s. CPC stood for 'Colour Personal Computer', although it was possible to purchase a CPC with a green screen (GT65/66) as well as with the standard colour screen (CTM640). The first machine, the CPC 464 was introduced in 1984. It was designed to be a direct competitor to the Commodore 64 and Sinclair ZX Spectrum systems. The CPC range was very successful, and over 3 million were sold during the machine's lifespan.



startech@thecurrentstar.net

TECHFOCUS

The internet

A fragile system threatened by natural disaster

AFP, Paris

THE earthquake off Taiwan on December 28, 2006 that shattered internet connections for millions in Asia demonstrated starkly how vulnerable the vital network is to interruptions.

Only a comprehensive backup system in the infrastructure could prevent total paralysis, specialists warn.

"We don't yet know how best to protect ourselves against infrastructure breakdowns," said Eric Domage, a senior executive with the information technology consultancy group IDC.

The internet, which emerged at the start of the 1990s, is a vast global information network linking numerous sub-networks which use the same communication language, the IP or Internet Protocol, enabling different computers to communicate with each other.

This vast linkage rests on an infrastructure spanning the world: routers, datacentres, servers and billions of small routers that can direct traffic into various networks via terrestrial and submarine cables or by satellite.

Among the weakest points of the internet are the so-called backbones, the main arteries forming a "vertical column" for the network interconnecting all the sub-networks and continents.

In Asia, a large share of the traffic which could not transit the damaged submarine cables was nevertheless re-routed as an emergency measure to servers in the United States.



But Eric Domage warned of the danger of becoming totally dependent on the United States.

He says the only solution would be to develop major electronic backup systems, in other words reinforced infrastructure such as submarine cables or routers, plus other links including by satellite.

Today, 50 percent of world traffic transits via one US state, Virginia, where most maritime terminals arrive and where the bases of most of the main root router centres are to be found which can transform an address in letters into an IP address.

The root routers are particularly sensitive.

"A hacker or a power cut can put them out of service and the Internet user then does not have access to sites," explained Romain Levy, a specialist with the information technology laboratory Lexsi.

And there are in fact only very few in the whole world, mainly in the United States, Britain and Sweden, notes Emmanuel Sartorius, a senior defence official at the French economics ministry.

One country is therefore technically in a position to "disconnect" another.

The effects of line disruption as happened in Asia can be contained if links can be transferred to wireless technology, by satellite or WiMax (wireless broadband), say sources at France Telecom.

The other danger is that of attacks by internet pirates.

"A hacker can take control of a DNS router and put it out of action," said Paulo Pinto, head of the infotech security research laboratory Sysdream.

In the absence of an alternative line, "if the emergency backup does not work, a hacker can disconnect a continent".

TECHNEWS

Futuristic tools and toys at world's largest consumer electronics show

AFP, San Francisco

A mind-bending array of futuristic gadgets tailored to the internet and home life will be unveiled this weekend at the annual International Consumer Electronics Show in Las Vegas.

More than 140,000 people from around the world are expected to attend what is billed as the largest trade show of its kind and a launch pad for culture-changing innovations such as the video cassette recorder and the compact disc player.

The "hottest products" from 2,700 exhibitors are to be on display at the 40th annual International Consumer Electronics (CES) show, which runs from Saturday through January 11.

Heralded offerings include televisions that play shows or films from computers as well as handheld and desktop computers that play television programs.

The maker of the SlingBox device that enables people to tune into their favorite television programs no matter where they are has sponsored an "Anytime Anywhere TechArena" at the show for similar technologies.

"This is such a hot and growing trend that this TechArena is sure to be a can't-miss destination at this year's show," said Consumer Electronics Association president Gary Shapiro.

"Sling Media is a prime example of a company pushing the boundaries of on-demand media availability by giving consumers greater flexibility in how and where they view their personal entertainment content."

In what was seen as a confirmation that film distribution is shifting inexorably to the Internet, Walt Disney Company chief executive Robert Iger and CBS president Leslie Moonves will be among the featured speakers at the event.

Digital Hollywood seminars

at the show will focus on "how movies, music, advertising, television and more are merging into a powerful new experience" and websites such as YouTube and MySpace are changing how users get entertainment.

US Internet search engine Yahoo is among the exhibitors promising breaking news at the show.

Microsoft co-founder Bill Gates and the heads of Motorola and Dell were also confirmed as CES speakers, emphasizing the influence technology titans have on consumer electronics.



Sling Media's Slingbox is held in front of a PC notebook playing a streaming video from a television set at the show in Las Vegas.

Displays of new devices are to cover as much space as 35 US football fields.

Promised innovations included technology to make remote-controlled and monitored "smart homes," intensify video game play, or operate cars from afar.

Security advances on display will include a device that acts as a credit card that can only be used with a matching fingerprint, and a palm scanner that recognises a user by the veins in their hands.

Of course, there will be robots. Most of the robotic offerings were designed to tend to the chore of vacuuming, but Ugobe of California is to present a "designer species" robotic dinosaur pet named Pleo.

Honda of Japan is to return with humanoid robot Asimo made all the more lifelike with a new skill - running in circles.

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