Star TECH

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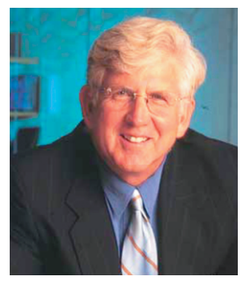
startech@thedailystar.net

## Robert Metcalfe

*(born 1946)*

*Robert Metcalfe is an American technology pioneer who invented the Ethernet, founded 3Com and formulated Metcalfe's Law.*
*Metcalfe was working at Xerox PARC in 1973 when he invented Ethernet, a standard for connecting computers over short distances. In 1979, Metcalfe departed PARC and founded 3Com, a manufacturer of computer networking equipment. In 1980 he received the Association for Computing Machinery Grace Murray Hopper Award for his contributions to the development of local networks, specifically Ethernet. In 1990 Metcalfe retired from 3Com and began a 10 year stint as a publisher and pundit, writing an Internet column for InfoWorld.*



TECHFOCUS

# On air online

SAAD HAMMADI

A personal Podcasting station

WHAT if you could have your own online radio station? Well, it may sound a bit crazy, but it is possible and it is happening. In less than a year, since its inception and with blogs already existing in cyberspace, Podcasting has added to the service that bloggers deliver.

With Podcasting, you can have your own ideas voiced on the internet, more like a voice blogging. Adam Curry, the inventor of Podcasting says, the ease of it is in a microphone for verbal communication, a computer and an internet connection.

Podcast was derived from the words 'iPod' and 'broadcast', but an iPod is not necessary for Podcasting or listening to Podcasts. Curry, who invented this transmission through an iPod was deeply into naming this solution as the founder of Podcasting, but later on online writers including Microsoft blogger Robert Scoble, suggested reinterpreting the letters 'pod' as an acronym for "personal-on-demand" instead of a reference to a specific music player. Podcasting was also named as 'Audioblogs' initially.

More to its extension has been the inclusion of (Really Simple Syndication) RSS 2.0 XML format that can serve you with the latest news and features from various sources at your preference and directly to your personal computer rather than having to click from site to site. RSS is indeed very useful and intelligent, as it does not require you to visit the sites of your importance from time to time instead having an up-to-date delivery of information at your desktop. But for this purpose you need to have a Newsreader installed prior to enabling RSS from any website. Newsreaders may vary based on operating systems but they can be found on the internet. For example, a Windows based Newsreader named 'Newscrawler' can be found at newzcrawler.com.

**An ideal Podcast station**

- A classic broadcast microphone
- A laptop
- Ear Buds
- A mp3 player for recording .
- Firewire audio in/out box.
- iPod

RSS is becoming demanding as big time websites such as BBC, CNN and New York Times are adopting it and not to forget Blogs too.

Moving from RSS, a supplementary to Podcasting, we refer to some of the local Podcasting blogs and websites. A regular StarTech reader may recall Asif Imtiaz from our last week's review on blogs, a local blogger, who has also uploaded some of his Podcasts in his blogs at http://blogs.imtiaz.com. Using Podcasts he has uploaded his own views on the news he has reviewed in his blogs.

Unlike blogs, people even record music, songs in addition to their thoughts and then place them on the web.

According to Wikipedia, the American syndicated radio show Web Talk Radio became the first to adopt the format, in September 2004, followed within weeks by Seattle news radio station KOMO and by individual programs from KFI Los Angeles and Boston's WGBH. The BBC began a trial in October 2004 with BBC Radio 5 Live's 'Fighting Talk', extending it in January 2005 to BBC Radio 4's 'In Our Time' and later to other shows. January 2005 also saw CBC begin a trial with its technology show 'Nerd'. US National Public Radio affiliates WNYC and KCRW adopted the format for many of their productions.

In May 2005, the trend began to go further with amateur Podcasts finding its demand for their blogspots. Many have taken blogs as an opportunity to practice news reporting and Podcasting being the voiced version could be a rehearsal for news presentation in radio or television. So what are you waiting for, go get your own Podcasting station ready.

TECHNEWS

# Bendable electronic paper devised

AFP, *Tokyo*

**Japanese researchers showed off a bendable electronic paper that uses almost no power whilst displaying images, making it useful for advertising on buildings and vehicles.**

PHOTO: AFP

JAPANESE researchers showed off a bendable electronic paper that uses almost no power whilst displaying images, making it useful for advertising on buildings and vehicles.

Electronics maker Fujitsu said the electronic paper was the first that can preserve images in vivid color and without distortion when they are folded or bent.

It said the paper has an image memory function that means it has no need for electricity other than a minimal amount when changing the picture.

"Electronic paper offers all the same characteristics of paper such as being thin, flexible and lightweight," Fujitsu said in a statement.

It said the product would be suited to public advertisements on trains, buses or buildings as it could be updated more frequently than signs made of traditional paper.

It could also be put to use in stores or restaurants or as part of mobile telephones.

Fujitsu said it will keep testing the paper's practical uses with the aim of commercializing it in the fiscal year ending March 2007.

PHOTOTECH

## THE NEW PS3

**Visitors look at a new white-coloured PSP (PlayStation portable) during the Sony Computer Entertainment's PlayStation Meeting 2005 in a hotel in Tokyo on July 21. SCE announced it will release the white-coloured PSP handheld game console from September 15 this year with a price of 24,800 yen (about 220.5 USD).**

TECHOPINION

# Last-mile wireless tech bridges digital divide

SHAJEL QURESHI

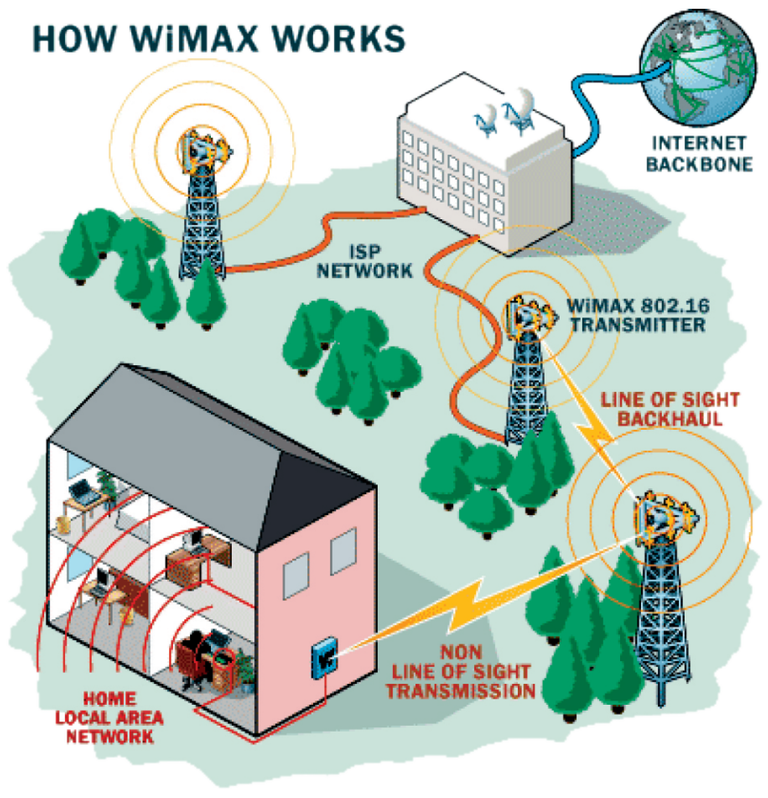
BRIDGING the digital divide often comes down to the fundamental step of actually creating connections between individuals and the Internet. This is seen as the last step by many, and so is often referred to as the 'last-mile connection' in the industry.

Most last-mile connections are made using physical structures such as the phone lines, fiber optics, and cable lines. But these physical connections are often both very costly to implement and impossible to use in remote rural locations. The fact that setting up wireless systems is so cheap has meant that its use has grown exponentially. As a result of this many have pinned their hopes on the wireless delivery of broadband Internet access across Africa and other remote locations worldwide.

Worldwide Interoperability of Microwave Access, or WiMAX, a standards-driven technological solution which facilitates the delivery of last-mile wireless broadband access over long distances, "This will be the best solution for bridging the digital divide in India," said Patrick P Gelsinger, a senior vice president and chief technology officer at Intel. This is because wireless broadband technology is relatively cheap and does not require a costly infrastructure to begin usage, which means that it can be used in very remote areas of the globe.A Business Standard article reporting on the sixth Intel Developer Forum in India quotes Gelsinger as saying in his keynote address, "The appeal to emerging markets is striking to say the least. Imagine being able to put up an antenna and provide high-speed Internet to thousands of customers who have little access to the Internet or even wired phones today. That has great promise in countries like India where the cost of wiring the countries would make broadband Internet access far too expensive." It has always been the dream of digital divide activists worldwide to wire the rural developing world; with wireless broadband technologies this dream can be realised.

The fact that the technology is standards-driven is incredibly important for its worldwide development. As quoted in an article in WiFi Planet, Craig Mathias, an analyst for the FarPoint Group, said that WiMAX has two drivers in the marketplace: 'lower cost for fixed-point to fixed-point wireless and interoperability. In short, the common benefits of standards.' This is because WiMAX is a standards-driven technology. These standards will allow WiMAX to be implemented more effectively and efficiently in more locations.

However, it is possible that because of the interoperability that WiMAX provides no one will have an incentive to pay for it. There are those who believe that the international interoperability achieved through standards based technologies is not best for bridging the digital divide in the developing world. As reported by ITWeb, The Technology Website, Christian Lacroix, Alcatel's Vice President for Southern and Eastern Africa believes the development of applications specific to the country, rather than generic ones applicable throughout the world, can also be a key driver in bridging the digital divide. He is quoted as saying that "Alcatel wants to play its part in overcoming the digital divide, but to do so properly requires cheap technology, and technology only becomes cheap when its volumes are high," says Lacroix. The implication is that if each country does not develop its own market and business relationships there will be nobody to pay for new technologies such as last-mile wireless broadband. However, it does seem reasonable to suggest that if various technologies are developed with a single country in mind then other countries might be completely left behind. As a result of this fact, a standards-based approach that emphasises interoperability and the ability to implement the system on a local scale is arguably the just alternative. The more local one's scale of reference becomes, the more a wireless broadband approach seems necessary.




As CNN reported in an online article on October 18, 2004, the Ulwazi e-learning project, jointly entered into by the South African government and Motorola, attempts to make educational and technological connections in South Africa that we often take for granted in the developed world. However, they are making these connections without wires, which make them much cheaper and thus ultimately feasible. "Using wireless broadband technology, students and teachers in five schools across the country can 'talk' to each other using virtual whiteboards, microphones and the World Wide Web." Again, by using wireless technologies this connection has become so cost effective and simple that it likely to occur in remote areas throughout the globe. CNN quotes Paul Budgin, a Motorola employee who set up the Ulwazi project, as saying, "Using this technology, the students can see the teacher, they can see the blackboard, and they can interact with each other." If this is the sort of interaction that interoperable wireless technologies allow for, governments and private companies would do well to fund them worldwide. One method of funding such projects is through donations from countries where various technological devices become obsolete before they are actually unusable.

As the developed world moves faster and faster through technologies there is more and more slow, but functional, equipment that can be given to people in the developing world and used along with wireless last-mile technologies for positive social changes. It is an undisputed fact now that computers and Internet access are essential components of economic growth and social betterment.

The wireless last-mile technologies exist to get people in rural formerly inaccessible locales connected to the Internet. Simply because it is possible, and will improve people's lives and organisations around the world must work together to make sure it happens. To truly bridge the digital gap, media literacy and e-skills training must all play a part in the education of Internet users, but Internet access is undeniably fundamental.

Shajel Qureshi is the Business Development Manager of Alcatel Bangladesh.

PART III

## The DataCentre of The Future

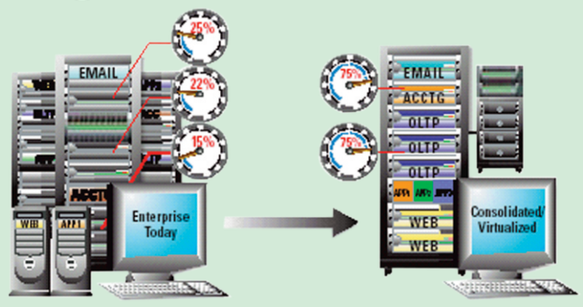
# Improving utilisation

Underutilisation and less than optimum performance from today's server and storage systems are byproducts of two main issues. First, servers and storage have been added organically, whenever and wherever needed, by different departments, divisions and locations. While this ability to add servers and storage easily is one of the key benefits of industry-standard technologies, it has also come at the cost of IT control. Second, because many organisations deploy a single application per server, many servers, on average, are

underutilised compared to their true performance capacity. The same is true of many storage systemsbecause these storage systems have been deployed in a decentralised fashion or with a single application/single server configuration, much storage capacity goes unused. Server and storage consolidation is one key way to improve utilisation.

**Five Types of Consolidation:** There are five types of server and storage consolidation.

**Logical consolidation** is the simplest and least expensive form of server/storage consolidation. It involves the consistent application of policies, procedures and best practices across




**Better utilisation through consolidation and virtualisation**

infrastructures, including the use of consistent deployment, change management and monitoring methodologies and tools.

Logical consolidation provides more control and consistency, and should be implemented and reviewed on a regular basis across IT organisations.

**Physical consolidation** involves the location of server and storage devices. By reducing the number of physical locations for servers and storage, organisations can greatly simplify the day-to-day management and operations of these devices. In fact, physical consolidation is often a prerequisite, or at least a good starting point, for all the other consolidation types.

**Workload consolidation** involves moving the same application from a variety of servers and storage devices to fewer and newer more powerful servers and storage devices. Combining workloads that have been deployed remotely and/or on older generation servers can provide improved manageability, performance and utilization. Workload consolidation has proven very effective for a number of applications, including file/print and messaging/e-mail.

**Storage consolidation** provides a number of benefits. By combining disparate storage resources and moving to networked storage, organisations can simplify the management of storage and significantly improve utilisation. The management of backup and restore processes can also be greatly improved through centralised, networked storage. These solutions will be the platform for continued, managed data growth in the future.

**Application consolidation** involves the aggregation of distinct applications onto a single server. New server virtualisation technologies enable this by partitioning the server into virtual workspaces for each application.

Extensions of this technology now enable the movement of these virtual machines across clustered physical systems, essentially removing physical limits to the number of virtual machines that can be supported. Virtualisation is a technology that will be essential for the datacenter of the future and should be investigated by most organisations.

Through consolidation and virtualisation, organisations can dramatically improve utilisation today. At the same time, clusters for key applications must be considered for additional utilization through

*To be continued...*