

IBM PC-DOS

IBM PC-DOS was one of three major operating systems that dominated the personal computer market from about 1981 to 1995. The original 1981 arrangement between IBM and Microsoft was that Microsoft would provide the base product and that both firms would work on developing different parts of it into a more powerful and robust system, and then share the resultant code. MS-DOS and PC-DOS were to be marketed separately. The final release, PC-DOS 2000, found its niche in the embedded software market and elsewhere. It was released to correct issues with the Year 2000 problem. Versions 7 and 2000 supported a diskette format known as XDF, which allowed for more data to be written to a standard floppy disk than usual.



TECHFOCUS

IPTV

An interactive solution for TV viewers

EDWARD APURBA SINGHA

In this broadband age Internet Protocol Television or IPTV has become a reality on the internet. It is called IPTV because it uses internet infrastructure and special protocols to deliver contents to end-users.

Traditional TV systems depend on terrestrial broadcasting or satellite transmission to distribute programs to households. Cable TV multiplexes several channels into a single line and makes them available to subscribers through a network of optical fiber and coaxial cable.

IPTV outdistances traditional TV systems by its interactive features. Traditional TV systems telecast programs in a passive way, which means viewers have no room for interaction. IPTV, on the other hand, enables users to choose from programs and watch them to their convenience. Unlike existing television, IPTV viewers do not need to watch a program at a specific time. An on-screen TV guide allows them to search through contents. They can also adjust camera angle to enjoy panoramic view.

IPTV is an integral part of triple-play concept: video, voice and data. The spread of the internet has paved the way for enjoying all these services through a single network which is why the world's premier telecommunications service providers now consider IPTV as a lucrative way to generate profit from existing markets.

The idea of IPTV came in the limelight in 1994 when ABC television broadcast the 'World News Now' over the internet with the help of CU-SeeMe videoconferencing software. Since then significant development in IPTV has been achieved due to the widespread availability of broadband connection.

To enjoy IPTV, viewers need a PC or set-top box and internet access. At present many websites offer free access to IPTV channels and major television broadcasters worldwide are gradually transmitting their programs via the internet. Set-top box with broadband internet provides better performance to viewers than traditional cable television does.

IPTV allows viewers to watch both live programs (multicasting) and stored videos (video on demand). Video contents are compressed with either a MPEG-

2 or a MPEG-4 codec and then send it an MPEG transport stream delivered via IP multicast in case of live program or via IP unicast for video on demand. Live program reception uses Internet Group Management

demand systems over Asymmetric Digital Subscriber Line (ADSL).

In the US, AT&T introduced U-Verse IPTV service in 2006. The company provides more than 300 channels in 11 cities and it is

has developed a system for live broadcasting of TV programs over the internet.

Salim started his work on IPTV when he was a university student. He has touted his system as being cost-effective and

various sources like satellite TV receiver, video camera, radio, video tape recorder (VTR) and CD/DVD. For real-time broadcasting, a satellite receiver is used to downlink the channel and input this signal to the video encoder.

Video encoder includes video capture card and encoder software to compress the video and then transform it into MPEG-2 format. Salim has developed some plugs-in in Visual Basic for the encoder software. Transmitter part is implemented in a separate PC and it is connected to the server. Signals from other sources also follow the same strategy before they are forwarded towards the server unit.

The server unit uses media server software to provide service to the end-users. To receive contents, users require a unique ID and password. Each user is assigned a special port. The server is capable of handling multiple transmitters, giving the viewers the opportunity to enjoy several TV/radio channels.

Server unit is directly connected to the internet through a high-speed line. A viewer sends their request by using a domain name or an IP address. Based on the request, the server sends the content. The viewer needs Windows Media Player (WMP) to watch it. If video is sent to the web server, viewers can see any TV program from the website. They can utilise WMP to enjoy radio programs also. Radio stations in this regard can live cast their programs from any place on the planet. By using this system, any TV channel can gather video contents from the internet and rebroadcast it to any specific location.

Salim told Startech that several companies, including a private TV channel, showed interest in his system. He said Tk 1,00,000 to 1,50,000 is needed to develop the entire system for commercial use. It is possible to downsize the cost for personal use. "In the near future, I will extend my effort to develop an autonomous TV station", he said.

easy to operate. Resembling Satellite News Gathering (SNG), it is able to capture live video from any place within a short span of time. The wireless connectivity requires 256 kbps bandwidth and a laptop. More bandwidth considerably increases its performance. This IPTV solution is also compatible with guided media broadcasting, for which it needs 2 to 3 Mbps bandwidth.

The entire system is divided into four main components -- video source, transmitter, server unit and receiver. Video source part is considered as an input unit, which takes signal from



Protocol (IGMP) version 2 whereas video on demand uses Real Time Streaming Protocol (RTSP).

IPTV has gained worldwide popularity which is increasing day by day. British telecommunications operator Kingston Communications has been successfully running its IPTV service, named KIT (Kingston Interactive Television), since September 1999. In addition, Kingston has also launched IP-based video-on-demand service and solution in 2001. It is one of the pioneer companies in the world to have unveiled IPTV and IP video on

demand systems over Asymmetric Digital Subscriber Line (ADSL).

In Bangladesh broadband penetration is gradually increasing. Although IPTV is not apparently popular right this moment, fast-growing internet users and rising numbers of TV channels will soon provide this service for the people. It should be mentioned that several processes are underway to develop a complete IPTV solution. Recently Salauddin Salim, an IT & networking engineer at CSB News,

TECHVIEWS

Perseid: a dazzling show in the night sky



MAMUN AHMED SHARIF

PERSEID is one of the most common annual meteor showers. The Earth generally makes its rendezvous with them between mid-July and August-end. Astronomers think its member meteors are the ejected dust portions of the Swift-Tuttle comet. The Perseids are so called because tracing their tails back in the night sky mostly leads to the constellation Perseus.

A meteor is a solid object, moving sporadically in the space with no specific orbit. When it nears a planet or moon, it is caught in the gravitational pull and comes down. Depending on situation, meteors are called by different names -- when cruising through the space it is called a meteor, when plummeting through the atmosphere, it is meteoroid and when it falls onto the ground, it becomes a meteorite.

Meteor shower is the condition when a large number of meteors -- some are small, some mid-sized and some large -- seem to be coming out from a certain point in



Bangla Met

the sky and scattering at random. Its source point is called radiant. Each of the showers has been named after the constellation from where they seem to originate.

Humans have observed from pre-historic times that meteor showers are regular yearly phenomena and some of them have particular time to occur. Perseid is one of them.

In a research it has been calculated that the Earth's gravitational pull brings down thousands of tons of meteors on its surface every day. These fireballs don't hit us because, luckily, three-fourths of the planet is covered with water.

When tiny meteors hit the atmosphere, they burn up in a fiery streak. This spatial display in the night sky creates a natural

phenomena which is a different spectacle altogether.

Meteor showers are usually visible in the cloudless sky from midnight through dawn. On August 12 and 13, Perseid was at its peak -- meteors were falling down at its maximum (about 15-20 pieces an hour). It was visible from Dhaka too as the cloudy sky cleared after midnight. A few Bolides (relatively large meteoroid) were also seen at the time. Some Dhaka residents said they saw 15-20 fireballs within 15-20 minutes after 2:00am. The shooting stars will be visible this week too and has the possibility to be seen till August 24 though showering rate will shrink to 5-10 pieces an hour.

Meteoroid is not clearly visible in light pollution. Riverside or village field is a better place to watch the beauty that is visible to the naked eye. Here one thing is worth mentioning. Bangladesh got her first meteorite at Shingpara, a tiny Thakurgaon village, on January 31, 2006. It is called 'Bangla Met', now kept at National Science Museum at Sher-e-Bangla Nagar, Dhaka. Records say eight more meteorites were found in Bangladesh before 'Bangla Met', the last one in Bhola in 1940. The then government took all of them to London.

The Bangladesh government should properly utilise this solar object, and display it to students at science festivals, which will help create space awareness among the youth.

TECHNEWS

U21 Global-Aiminlife tie-up for online education

WITH a view to promoting complete e-learning facilities in Bangladesh, U21 Global and Aiminlife.com announced their partnership on August 13. U21 Global is a premier online graduate school, backed by 20 world-class universities. Aiminlife, on the other hand, is the fast-growing career portal in Bangladesh. Under the partnership agreement, Aiminlife will provide services like recruiting, counselling and other facilities to local students. Many dignitaries were present at the signing of the business partnership at Hotel Sheraton, including President Iajuddin Ahmed, Foreign Affairs Adviser Iftakhar Ahmed Chowdhury and Dr Helen Lange, dean of Business Management Programmes, U21 Global. Other participants were Dr Mukesh Aghi, chief executive officer (CEO), U21 Global, Yussuf A Harun, president, International Institute of

Business Analysis Bangladesh, Aiminlife's chief adviser Syed Marghub Murshed and its chief executive officer Shoeb Chowdhury. President Iajuddin said this kind of initiative is essential to enrich the existing education system, which will help achieve global standard. Dr Aghi stressed that "this partnership further underscores our commitment to promoting e-learning initiatives in Bangladesh and across the region". Dr Lange in her multimedia presentation highlighted different online programs, partner universities and other academic information. Yussuf A Harun emphasised quality education in order to prepare the next generation for the challenges they will encounter. Syed Marghub Murshed maintained that "Aiminlife is committed to fulfilling the needs of our youngsters as well as creating an ideal online education system". He also talked about Dr

Muhammad Shahidullah scholarship awards in his speech. Shoeb Chowdhury expressed his gratitude to the panel members and audience for their participation. U21 Global has successfully enrolled students from 60 countries around the world. The graduate programmes draw on the best practices in online learning and pedagogy and have been approved by U21 pedagogical, an independent quality assurance body which ensures that the curriculum meets the rigorous academic standards of all the affiliated universities. Aiminlife on the other hand is trying to provide best career services by teaming up with different organisations. It is also planning to organise seminars, workshops and training programs in different fields in order to boost the quality of students.

Edward Apurba Singha



BEYOND THE HORIZON

This handout photograph provided by Nasa, backdropped by the blackness of space beyond the Earth's horizon, shows the US space shuttle Endeavour docked to the Pressurized Mating Adapter (PMA-2) on the International Space Station. The image was taken by a crewmember during the mission's first planned session of extra-vehicular activity (EVA) on August 11 in Space.

PHOTO: APP

Tech Jargon IV

Readers, hope my series is helping you make your way through your office and friend-circle conversations with confidence.

Today let's talk about peripherals. Peripherals refer to devices or machines that can be attached to your computer in order to carry out specific tasks. Examples of peripherals are your printers, scanners, webcams etc.

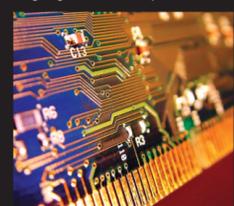
So let's go on with today's word stock.

Touch pad: As the name suggests, a touch pad works a lot like a mouse by helping you guide your cursor on the screen. It basically consists of a pressure-sensitive pad where you can place a digital pen or even your finger and it will respond to your pen or finger's movement and pressure. I've always had a thing against the mouse because of its uncanny resemblance to those domestic pests that creep around your house, nibbling at your food. Whoever thought of giving such a handy tool such an obnoxious shape? So for me, the touch pad is great news indeed, because that means I can finally get rid of the mouse.

The touch pad can be found built into all laptops these days. You can also purchase one separately and attach it to your PC. It's a great favourite among architects, designers and artists.

TWAIN: Amusingly, the word

TWAIN stands for "Technology Without An Interesting Name". People are running out of interesting nomenclatures! I think the Oxford people ought to do something about it. Anyway, coming back to the topic, why I included this word in today's stock, besides the point that I found it very amusing, is that it is related to scanners, which is another example of a peripheral. TWAIN is actually a standard language, which computers use to



communicate with scanners.

Inkjet: A very popular colour printer technology. Inkjet printers work by squirting tiny jets of ink onto your paper with great precision. Of course, this technology, although still quite popular, is fast getting replaced by laser printer technology, where lasers guide powdered ink onto paper into the required pattern. Why people prefer laser printers to inkjets is that inkjets print

a line at a time, taking more time than a laser printer, which prints a page at a time.

Bluetooth: Although the name may remind you of a horrific monster with blue coloured teeth, the bluetooth is thankfully quite harmless. Ask any teenager about it and they'll give you a cartload of information. A bluetooth is a device that enables wireless communication between PCs and other devices like mobile phones. A number of mobile phone models these days provide the bluetooth facility, which allows you to transfer music, pictures and other information to and from PCs and other mobile phones.

USB: This one doesn't exactly belong to the group of peripherals, but my reason for including it here is that it is related. The USB, which stands for *Universal Serial Bus* is a type of port (or connector) used to attach extra devices to a PC, such as a scanner, digital camera or pen drive. Many PCs nowadays use USB ports to connect the mouse and the keyboard to the CPU.

Nahid Akhter