



TechTalk

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Facebook Opens Internet.org throughout India

Facebook's Internet.org initiative offers free Internet services in developing countries where people might not have easy access to the Internet, and the service is now available to people in India through the Free Basics App and the Reliance Communications network.

Reliance Communications is the fourth-largest network in India and has around 110 million subscribers. According to the Reliance Communications website, Free Basics will offer access to services like Facebook and Facebook Messenger, as well as BBC News, Wikipedia, Dictionary.com, Bing Search and some local news.

Of course, Internet.org has been hit with its fair share of criticism. Many suggest that because of the fact that the service gives priority to its partner services, it violates net neutrality. In response to that, however, Facebook CEO Mark Zuckerberg has said that while Internet.org does offer basic services at no charge, it is not aimed at limiting access to other providers. Not only that, but Internet.org is also open for developers to join and is open to other potential partners. This response, however, has done little to calm critics of the service, who say that there are a lot of drawbacks associated with having a company as large as Facebook controlling what potentially billions of people see online.

Facebook has also been finding other ways of connecting those that otherwise don't have access to the Internet, even experimenting with drones that offer Internet connections to those below.

Internet.org is available throughout Africa, Latin America, South and Southeast Asia and now India.

Lenovo Partners With Razer to Produce a New Range Of Gaming Computers

It seems as though Lenovo is getting serious about gaming computers, and has announced a partnership with Razer that will see the production of a new range of co-branded gaming PCs, with the first series being a modified version of Lenovo's Y series that was shown off at IFA in September.

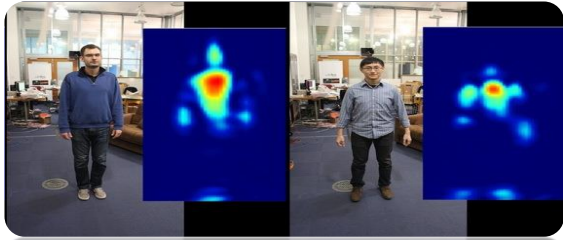
The first prototype of the new range of Razer Edition Lenovo PCs is on show at the Dreamhack Winter LAN party in Sweden, but the two companies say they plan on extending their partnership into the development of a full range of computers. The prototype looks much like other Razer computers, with Razer's signature red highlights being changed to a green color. The partnership will extend beyond simple aesthetics, however, with Lenovo saying that future gaming computers will take cues from Razer's software expertise, such as a full suite of tools for optimizing and managing games. Lenovo is, of course, also hoping that Razer's rather large fan base will take to the new computers. According to Lenovo spokesperson Victor Rios, while the rest of the PC market is slowly falling, gaming is a segment of the PC market that's growing. This, of course, makes it a very interesting segment for the company to enter as Lenovo, along with companies like Acer and Asus, is betting big on gaming. The new PCs will be aimed at combining the specs that gamers would want with the convenience of not having to hunt down the individual parts for themselves and take into account the design choices that gamers might make.

The first computers to be announced through partnership will launch at CES 2016 next month, and will be followed by more releases throughout the year. It's important to mention that while Razer isn't exclusively partnering with Lenovo, it certainly seems as though the partnership will be a significant focus for Razer for now.



The Future is Now

'X-Ray Vision' Tech Uses Radio Waves to 'See' Through Walls



"X-ray vision" that can track people's movements through walls using radio signals could be the future of smart homes, gaming and health care, researchers say.

A new system built by computer scientists at MIT can beam out radio waves that bounce off the human body. Receivers then pick up the reflections, which are processed by computer algorithms to map people's movements in real time, they added.

Unlike other motion-tracking devices, however, the new system takes advantage of the fact that radio signals with short wavelengths can travel through walls. This allowed the system, dubbed RF-Capture, to identify 15 different people through a wall with nearly 90 percent accuracy, the researchers said. The RF-Capture system could even track their movements to within 0.8 inches (2 centimeters).

Researchers say this technology could have applications as varied as gesture-controlled gaming devices that rival Microsoft's Kinect system, motion capture for special effects in movies, or even the monitoring of hospital patients' vital signs.

"It basically lets you see through walls," said Fadel Adib, a Ph.D. student at MIT's Computer Science and Artificial Intelligence Lab and lead author of a new paper describing the system. "Our revolution is still nowhere near what optical systems can give you, but over the last three years, we have moved from being able to detect someone behind a wall and sense coarse movement, to today, where you can see roughly what a person looks like and even get a person's breathing and heart rate."

The team, led by Dina Katabi, a professor of electrical engineering and computer science at MIT, has been developing wireless tracking technologies for a number of years. In 2013, the researchers used Wi-Fi signals to detect humans through walls and track the direction of their movement.

The new system, unveiled at the SIGGRAPH Asia conference held from Nov. 2 to Nov. 5 in Japan, uses radio waves that are 1,000 times less powerful than Wi-Fi signals. Adib said improved hardware and software make RF-Capture a far more powerful tool overall.

The system costs just \$200 to \$300 to build, and the MIT team is already in the process of applying the technology to its first commercial application — a product called Emerald that is designed to detect, predict and prevent falls among the elderly.

"This is the first application that's going to hit the market," Adib said. "But once you have a device and lots of people are using it, the cost of producing such a device immediately gets reduced, and once it's reduced, you can use it for even more applications."

The initial applications of the technology are likely to be in health care, and the team will soon be deploying the technology in a hospital ward to monitor the breathing patterns of patients suffering from sleep apnea. But as the resolution of the technology increases, Adib said, it could open up a host of applications in gesture control and motion capture.

"We still have a long path to go before we can get to that kind of level of fidelity," he added. "There are a lot of technical challenges that still need to be overcome. But I think over the next few years, these systems are going to significantly evolve to do that."

Self-Healing Sensor Brings 'Electronic Skin' Closer to Reality

Scientists have developed a self-healing, flexible sensor that mimics the self-healing properties of human skin. Cuts or scratches to the sensors "heal" themselves in less than one day.



Flexible sensors have been developed for use in consumer electronics, robotics, health care, and space flight. Future possible applications could include the creation of 'electronic skin' and prosthetic limbs that allow wearers to 'feel' changes in their environments.

One problem with current flexible sensors, however, is that they can be easily scratched and otherwise damaged, potentially destroying their functionality. Researchers in the Department of Chemical Engineering at the Technion – Israel Institute of Technology in Haifa (Israel), who were inspired by the healing properties in human skin, have developed materials that can be integrated into flexible devices to "heal" incidental scratches or damaging cuts that might compromise device functionality. The advancement, using a new kind of synthetic polymer (a polymer is a large molecule composed of many repeated smaller molecules) has self-healing properties that mimic human skin, which means that e-skin "wounds" can quickly "heal" themselves

in remarkably short time – less than a day.

"The vulnerability of flexible sensors used in real-world applications calls for the development of self-healing properties similar to how human skin heals," said self-healing sensor co-developer Professor Hossam Haick. "Accordingly, we have developed a complete, self-healing device in the form of a bendable and stretchable where every part – no matter where the device is cut or scratched – is self-healing."

The new sensor is comprised of a self-healing substrate, high conductivity electrodes, and molecularly modified gold nanoparticles. "The gold particles on top of the substrate and between the self-healing electrodes are able to "heal" cracks that could completely disconnect electrical connectivity," explains Prof. Haick.

Technology Focus

Running Out Of Internet Addresses: What IPv4 Exhaustion Means for You

ARIN's announcement that it has run out of IPv4 addresses has hastened the long-awaited move to IPv6. Here's what you need to know about the changeover.



We reached the end of an Internet era just a few weeks ago. The American Registry for Internet Numbers (ARIN), the body that distributes Internet addresses in North America, announced it had exhausted its pool of numbers based on the IPv4 standard. Though invisible to users, IPv4 played a huge role in creating the Internet as we know it by facilitating the connection of millions of computers, smartphones, tablets, and smart devices. That was its ultimate—and perhaps inevitable—undoing. By enabling this vast network of connected devices, it helped spawn more Internet users and devices and then it could ever accommodate. The news has hastened a transition to IPv6, the next-generation Internet protocol that's been waiting in the wings for more than a dozen years. And while this newer standard is the ultimate answer for supporting our growing array of connected thermostats, watches, cars, and other smart devices, there are a few things you need to know to prepare for the change.

The evolution of IP

The Internet Protocol (IP) is the set of rules that governs how your data moves from one computer to another across the Internet. Each computer must have an IP address—a unique number that functions like a street address, telling other computers where it is so they can deliver information. As you can guess from the name, IPv4 is the fourth revision—but the first major implementation—of the protocol. It was introduced in 1981, and, like many things of that vintage, it's starting to show its age. IPv4 uses a 32-bit numbering scheme, with four sections of eight bits each separated by a period—194.66.82.11, for example. This scheme can accommodate 4.3 billion addresses. During the first Reagan administration, the PC era was in its infancy and most mainstream homes didn't have a computer, let alone a modem, so it was unfathomable that we would ever need any more.

The current conundrum began to develop when the price of home computers came down and the World Wide Web exploded in the 1990s. Suddenly, everyone was jumping online. By the 2000s, most homes didn't just have one computer, but several, plus a few smartphones and a tablet or two. And now with the emergence of the Internet of Things (IoT), people are adding all manner of devices—from smart refrigerators to smart porch lights with built-in security cameras—to their home network. There just aren't enough unique IP addresses for everything.

Despite this digital boom, we've gotten by until now thanks to the Network Address Translation (NAT) maps in our routers. NAT enables your router to act as an agent between your home network and the Internet, enabling multiple devices to connect to the Internet using a single IP address. And it's been very effective in helping conserve IPv4 addresses. IPv6 (IPv5 was reportedly used to identify the experimental Internet Stream Protocol) rectifies this problem with a 128-bit address scheme: eight 16-bit segments separated by colons (see the example below) that can provide approximately 340 undecillion unique IP addresses. If you can't wrap your mind around that number—in the U.S., it's a 1 followed by 36 zeroes—suffice it to say it's enough to serve generations of Internet users and their devices.

The next-gen protocol's benefits go beyond direct addressing, though. IPSec, a protocol suite that encrypts and authenticates each individual data packet, was an optional component for IPv4 that is built in to IPv6. That could make it significantly harder for criminals and mischief-makers to wage the kinds of cyber-attacks that plague us today. There are also potential performance improvements, such as stronger more efficient connections.

The slow road to IPv6

Although IPv6 has been ready to roll since 1999, adoption has been slow. As of 2015, only about 14 percent of the top 1000 websites—including Facebook, Google, and Wikipedia—have implemented the protocol. This was partly pragmatic; even though we've been warned for years that the IPv4 well was running dry, only a small number of users were equipped to use the newer protocol—IPv6 is not backward compatible with IPv4 devices—so there was little incentive for websites and services to proactively make the switch. A bigger reason is the difficulty—real or perceived—of the transition. For many companies, it can be as simple as asking their ISP for IPv6 service. But for others, such as ISPs and enterprises that host their own Internet services, the backend changes can be much more complicated and any missteps can slow service or make a website completely inaccessible by customers and users.

"It's a monstrous undertaking by any operator," analyst Michael Howard of Infonetics Research, a division of IHS, told IDG News Service. "The protocols might be robust, but this operation is delicate, because it has to be coordinated with all the routers."

As far as ARIN is concerned, however, the day of reckoning has come, and it is urging cloud providers, web hosts and other organizations to stop dragging their feet and make the move now. Consumers don't need to worry much about the transition from IPv4 to IPv6 addresses. It's a whole other kettle of fish for Internet service providers and other big companies.

Consequences for consumers

Even if we could flip a switch and convert the entire Internet to IPv6 at once, the outlook for consumers wouldn't be as dire as they might seem. It's true IPv6 compatibility requirements can impact a whole host of things we rely on every day, including computer operating systems, web browsers, and anti-virus software; modems, routers, and gateways; networked TVs, Blu-ray players, and AV receivers; VoIP equipment and videoconferencing programs; and Internet-enabled home security systems, to name a few. But most computer operating systems are already IPv6 ready—Windows has included mature IPv6 support since at least Vista, and Mac OS since Panther. The same is true for iOS, Android, and each of the major browsers. And since smart devices are one of the drivers of IPv6 adoption, they are equipped to make the transition, too.

Tech News

Cyberattacks on Firms Posing Credit Risk



Credit rating agency Moody's Corp. warns that cyber defenses as well as breach detection, prevention and response will be higher priorities in its analysis of the creditworthiness of companies across all sectors, including healthcare and financial services.

Moody's said cyber defense, detection, prevention and response will be a higher priority in credit assessments. While risk awareness is growing and is a credit positive, reducing risk is hard because the threats constantly evolve. For example, larger utilities serving more people are likelier targets for hackers, though smaller ones may be less prepared to defend themselves, the report noted.

According to the report, organizations that house significant amounts of personal data, including financial institutions, healthcare entities, higher education organizations and retail companies, are at greatest risk to experience large-scale data theft attacks resulting in serious reputational and financial damage. Other sectors

considered part of the nation's critical infrastructure, such as electric utilities, power plants, or water and sewer systems, are more exposed to attacks that could lead to large-scale service disruption, causing substantial economic - and possibly environmental - damage, the report notes. "However, Moody's believes such an attack would elicit immediate government intervention to restore operations, resulting in lower potential credit risk."

In another recent report by Standards & Poors, the research firm said that it could issue a downgrade if a bank looked ill-prepared for dealing with a cyberattack or following a breach that causes significant damage to a bank's reputation or which leads to substantial monetary losses or legal damages. The report cautioned that financial services firms must do more than simply budget for information security. "Banks must balance technology investments across protection, detection and response. And most importantly, they have to align their organization and culture around security awareness and preparedness to make the most out of their investments," mentioned the report.

Moody's too has identifies several key factors to examine when determining a credit impact associated with a cyber event, including the nature and scope of the targeted assets or businesses, the duration of potential service disruptions and the expected time to restore operations.

"More cybersecurity expertise is being added to boards and trustee governance," writes the report's lead author, Jim Hempstead, Moody's associate managing director in a statement. "We expect many [organizations] will create distinct cyber security subcommittees, which is a material credit positive," he summed up.

Big Decision: Indian MPs to Become Tech Savvy, Parliament Goes Paperless



Parliament of India has taken a big decision. The two Houses have gone paperless from Thursday, Nov 26. The sole intention behind taking the decision is to digitalize the Parliament of the country. Lok Sabha Speaker Sumitra Mahajan on Thursday announced that all MPs will be entitled to buy an iPad and Parliament will reimburse the price of the gadget.

Winter Session of the Parliament has begun and henceforth all annual reports from the ministries, committee reports, private members' bills, unstarred questions and bulletin -1 will be uploaded on Parliament website, Sumitra Mahajan informed MPs. However, a source in Parliament was quoted as saying, "If anyone wants a

printed version, they will have the option for some more time. But once the training program for the MPs is over, everyone will have to use the digital version." The source also said, "Parliament website has been redone and all the reports will be uploaded immediately after they are tabled in Parliament." Soon, all MPs will be able to use 4G internet connection through WiFi at the both Houses, Central Hall and the residences of the MPs. The source, meanwhile, informed that Parliament officials will make messaging apps more effective, so that MPs can avoid paper slips completely. MPs will also be given unique and simple mail IDs, added the source while speaking about the latest decision taken by the Parliament of India.

LG to Spend Billions on OLED Displays



LG will invest billions in OLED display production over the next few years, starting with plans for a large panel plant in Korea, which could produce screens for new iPhones. The so-called P10 factory—which is being built in Paju, Gyeonggi Province—will take about two years to complete, but will specialize in large-size OLED TV panels and flexible OLED panels for smartwatches and automotive displays. The \$8.7 billion investment is expected to be the size of 14 football fields and about 328 feet high.

"LG Display's investment in P10 Plant is a historical investment for the industry since it will not only help expand the OLED market but also accelerate the development of future display technologies. With the active support of the Korean government, we believe the P10 plant will become the center of the global OLED industry," Dr. Sang Beom Han, CEO and President of LG Display, said in a statement.

Earlier this week, Nikkei reported that Apple would adopt OLED displays for its iPhones in 2018, and that LG was planning "capacity upgrades" in response. Supply constraints, however, might mean that Apple will offer OLED and LED iPhone models at first, the report suggested. Apple has not made any announcements. Its plan to adopt sapphire screens for its smartphones fizzled last year.

LG, meanwhile, will also invest almost \$1 billion in a sixth-generation flexible OLED production line in Gumi, Gyeongsangbuk Province, which can produce 7,500 sheets per month and is expected to start mass production in the first half of 2017.

Special Focus

New EMC Offerings Deliver Cloud Integration across the Datacenter

EMC is extending its out-of-the box enterprise cloud solutions delivering choice, flexibility and peace-of-mind with easy-to-deploy, easy-to-manage cloud tiering to and from a number of storage platforms.



EMC announced the immediate availability of a broad range of products and solutions designed to seamlessly connect primary storage and data protection systems to private and public clouds. As a result, organizations will be better equipped to take advantage of both the agility and unlimited scalability of public cloud services and the control and security of a private cloud infrastructure.

As IT departments rush to keep pace with the demands of the rapidly changing business, they often rely on both the private cloud – because it is trusted, controlled and reliable – and the public cloud – because of its low cost and near limitless capacity. Cloud-enabled storage and data protection

solutions, like those being announced by EMC today, empower customers to deploy a trusted storage environment where data can be automatically tiered to both public and private clouds.

EMC is extending its out-of-the box enterprise cloud solutions delivering choice, flexibility and peace-of-mind with easy-to-deploy, easy-to-manage cloud tiering to and from a number of storage platforms.

EMC is also launching a number of new data protection features that provide customers with the tools they need to ensure their data is protected wherever it resides, regardless of what might happen.

New Products and Solutions Delivering Cloud Integration across the Data Center:

EMC is integrating new and expanded cloud capabilities across its entire storage and data protection portfolio including solutions to store and protect data to, from and within the cloud.

Tiering Data to/from the Cloud - EMC's VMAX and VNX storage platforms deliver simple, automated tiering to and from private and public clouds. EMC is further extending the integration reach of VMAX with enhancements to its FAST.X tiering solution, enabling customers to achieve lower total cost of ownership by automatically tiering to public clouds from both EMC and non-EMC storage. By simply connecting VMAX to an EMC CloudArray and a SAN and a network switch, customers can immediately connect the power of the cloud to their data centers and automate the allocation of data to storage targets on-premise and in the cloud, based on their own service level objectives.

Price-sensitive customers are able to achieve similar functionality on a smaller scale by substituting VNX for VMAX in their infrastructure configuration and adding EMC VPLEX. VPLEX cloud tiering extends intelligent data mobility services to the cloud, enabling VNX to non-disruptively tier data in and out of public and private clouds.

Both VMAX – with new integrated cloud tiering – and VNX– leveraging new cloud tiering – now offer expanded support for private and public cloud providers. EMC now supports VMware vCloud Air, Microsoft Azure, Amazon S3 and Google Cloud Platform – all while delivering the performance and peace of mind that customers expect from enterprise storage.

Protecting Data to/from the Cloud – CloudBoost 2.0 seamlessly extends customers' existing EMC data protection solutions, including the Data Protection Suite and Data Domain, to elastic, resilient, scale-out cloud storage, enabling customers to leverage the economic benefits of the public cloud for long-term data retention. CloudBoost now features enhanced overall performance, scalability and manageability, making it even easier for customers to cache data locally and move it to the cloud. CloudBoost offers 3x faster throughput and 15x more data capacity than previous versions. Furthermore, CloudBoost enables deduplication and incremental restores simultaneously, without the need for complex cloud compute infrastructure.

Protecting Data in the Cloud - Spanning by EMC now features enhanced restore and security capabilities along with new regional deployment within the European Union. Spanning Backup for Salesforce delivers enhanced SaaS data restoration capabilities making it easier for customers to quickly and easily restore lost or deleted data. And, Spanning's new European data destination option helps organizations comply with European data sovereignty laws and regulations.

Data Protection as a Service - EMC service providers and EMC customers who deploy data protection as a Service (DPaaS) in their own private clouds will benefit from new features being introduced into the latest version of the Data Domain® operating system DD OS 5.7, including enhanced capacity management, secure multi-tenancy, and a dense shelf configuration that dramatically reduces total cost of ownership.

Simplified Data Protection Management – Finally, EMC is announcing the next generation of its NetWorker® data protection software. NetWorker 9 introduces a new universal policy engine designed that automates and simplifies the data protection process regardless of where the data resides. Using the policy engine, EMC customers will be able to automate the process of moving protection data through tiers of storage, with protected data stored locally for immediate access and cold data systematically handed off to more cost-efficient cloud targets. Additionally, NetWorker 9 now also integrates with EMC ProtectPoint™ and delivers integrated block-level protection for Microsoft and Linux environments.

Extending Data Lakes to the Cloud – Last week, EMC announced EMC CloudPools, a new feature for EMC Isilon that allows customers to extend their cold data to public and private clouds. CloudPools enables Isilon to tier data seamlessly to public clouds such as Amazon Web Services, Microsoft Azure and Virtustream and private clouds with EMC ECS or a remote Isilon cluster. The tiering happens without the need for a cloud gateway, providing cost-effective, easy and flexible hybrid cloud capability.

About Galaxy

- ✚ One of the most respected Information Technology integrator of the best of breed products and solutions for Enterprise Computing, Storage, Networking, Security, Automation, Application Delivery, ERP and Business Intelligence.
- ✚ An ISO 9001:2008 organization, founded in 1987.
- ✚ Committed team of over 200 skilled professionals.
- ✚ PAN India presence.
- ✚ Trusted IT services provider to more than a 1000 companies.
- ✚ Experienced consultants certified on a wide spectrum of technologies.
- ✚ The Galaxy Technology Innovation Centre, a state-of-the-art integrated hardware and software laboratory, allows customers a hands-on look at the latest storage, backup, security, application delivery and virtualization technologies.
- ✚ Customer list includes many of India's leading corporations, banks and government agencies.
- ✚ Four business units collaborate to provide a full spectrum of services and ensure smooth projects. Together, they provide our customers with truly end to end professional IT Services.

Galaxy Business Solutions

System integrators of best of breed technologies to deliver solutions to the problems and challenges that confront enterprises

Galaxy Technology Services

Skilled pool of resources consistently maintains and delivers enterprise class service levels

Galaxy Network Solutions

One of India's most trusted active and passive networking specialists

Galaxy BI Consulting Services

Helps organizations to deliver and leverage business intelligence to create substantial business impact

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VISION

"To become the most preferred technology solution partner by listening to our customers, anticipating their needs and providing reliability, flexibility, responsiveness and innovative products and services. Achieving market leadership and operating excellence in every segment of our company."

MISSION

"Total customer satisfaction; through innovative insights, quality service and excellence in technology deployment."

VALUE PROPOSITION

"We understand the need of a common vendor for all your IT needs. Hence, we are committed to long-term partnerships by delivering on our commitments."

MD Speaks

"Last month, a couple of incidents demonstrated how technology has played a very big role in them. In Paris, the terrorists made use of an encrypted chat application to plan and execute the bombings that caused a lot of damage to innocent people. This technology would have helped them to keep the information within a much closed group right until execution, thus reducing chances of leaks to intelligence agencies. In Chennai, when a combination of nature's fury and an extremely faulty and inadequate drainage system caused floods leading to chaos, the use of technology helped promote relief and rescue related information. Apart from a large number of start-ups jumping in - most for a good cause and some from cheap publicity - the most visible and apparently successful was a cloud based spreadsheet created by an individual that simply provided detailed information about where locals can find help in the form of shelter, food, electricity and other basic necessities and in fact became viral on social media.

These incidents pretty much establish that technology is a double edged sword and it is up to the providers and consumers to ensure that more good than bad comes from its use. At Galaxy, we strive to develop and use technology for the betterment of humanity with minimal scope for misuse by misguided elements.

With a prayer to the victims of both these tragedies, I wish all my Chennai readers a speedy recovery."