

TechTalk



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Galaxy Announces the Launch of Its New Business Unit: MobiSmart

In an environment where technological progress requires our customers to adapt quickly and stay ahead of the curve, it is even more critical for partners like Galaxy to provide a listening ear to them and have a good understanding of their constraints and challenges. Thus, we create dedicated teams for various offerings and empower them with best-of-class industry professionals for long term success.

In line with this, Galaxy now has a new Business Unit to leverage the huge potential of Internet of Things (IoT) sector. This is a natural extension of our mission to provide products and technologies that improve people-to-people connectivity and help increase operational performance of customers. Thus, we now have on board Mr. Nishant Jalan as the Director for our new BU for **Smart Devices & IoT**, also known as "**MobiSmart**".

MobiSmart will help customers with an intelligent selection of smartly enabled devices with features and functionalities that cater to highly customized preferences of each business user. Specific application requirements can be configured using different IoT platforms to be made available to customers. **MobiSmart** can provide an assortment of IoT products & services such as Apple devices, Lenovo tablets, a variety of custom applications.

Nishant will be responsible for driving entire go-to-market and sales activities for Service Providers, large enterprises, SMEs, OEMs and other ecosystem players for IoT and mobility products portfolio. We wish him good luck in this new endeavor and look forward to serving our customers in better and more innovative ways!

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MD Speaks



"Dear Readers,

So finally, GST has become a reality for Indian businesses. Till about 20 days ago, there were rumours floating around that the implementation will be delayed because of various reasons, but turned out that's what they exactly were, rumours!

This is by far the biggest indirect tax reform and should have far reaching consequences. Though, it definitely isn't perfect to begin with, I am hopeful that over the next couple of years, it will mature and result in greater simplicity. The biggest advantage is the near real time digitisation of purchase and sales data of practically all B2B businesses. This is a gold mine of data that could be and should

be queried to pinpoint tax evaders and take appropriate action. It has been a long time that honest tax payers have been losing business to tax evaders and this seems like coming to an end. Another great advantage over the medium to long term will be the ease of movement of goods across states and cities. I sincerely hope that all these advantages are not negated by red tape and harassment.

For the IT industry, there are a variety of opportunities that have arisen with the introduction of GST. As the mud settles and things get clearer, I am sure that there will be many more opportunities that can be unearthed. Finally, the good monsoon forecast seems to be on track which will augur well for Indian agriculture & businesses in general.

Starting this month, Galaxy has launched a new initiative- MobiSmart, for Smart Devices and IoT. I hereby take this opportunity to wish good luck & success to the MobiSmart team.

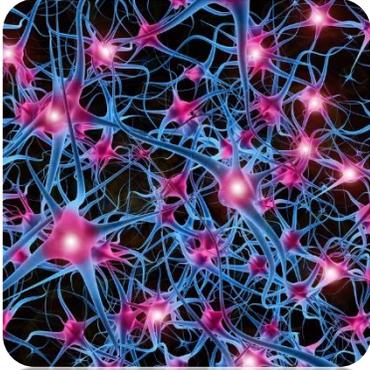
Happy Reading."

A.P. Rungt

The Future is Now

Artificial Synapses Could Lead to Smarter AI

Heads up, humanity. Artificial intelligence may be about to get a lot smarter.



An international team of scientists have developed a new kind of synthetic synapse for artificial intelligence systems using the neural network model. In artificial neural networks, computing systems are designed to emulate the function of the human brain, with digital neurons and synapses replicating the function of their biological counterparts.

In this context, synapses serve as a gateway for neurons, whether synthetic or biological, to pass information and signals to one another. They're the connective tissue in both biological and artificial neural networks. It's estimated that the typical human nervous system contains more than 100 trillion synapses. While scientists have had remarkable success with artificial neural networks, contemporary AI systems have been stymied by a specific limitation. In the mammalian brain, synapses can accommodate two types of signals — inhibitory and excitatory — simultaneously. But artificial synapses, made from nanoscopic electronic components, can only process one type of signal at a time. As a result, AI systems can only run at half throttle. US and Chinese researchers have developed a synthetic synapse that can handle both kinds of signals, reconfiguring itself on the fly, according to new research published this week in the journal ACS Nano. Funding for the project was provided by the National Science Foundation and the Army Research Office.

"These new artificial synapses allow the same synapse to be reconfigured into either excitatory or inhibitory modes, which was not previously possible in solid state artificial synaptic devices," said co-author Han Wang, of the University of Southern California. "This new functional flexibility is important for enabling more complex artificial neural network that can also dynamically reconfigure just like our brain does."

This kind of biological emulation is critical for the development of next generation cognitive abilities in artificial neural networks.

"More sophisticated nervous systems could be emulated, making the system potentially more intelligent and versatile," Wang said.

You'd need a Ph.D. or three to really wrap your head around it all, but Wang suggest an automotive metaphor.

"It is just like one is the accelerator and the other is the brake, and the two work together to ensure the proper functions and stability of the brain activities — the car," Wang said. "It is closer to what the biological brain can do."

Space Robots to the Rescue! How NASA Will Service Aging Satellites



Uncrewed satellites orbiting Earth and other planets in the solar system travel at thousands of miles per hour, their missions spanning years or even decades. They were built to last on their own, but how might space agencies service them if parts break down, or if they run low on fuel?

At a June 18 panel "Robots in Space," NASA scientists explained how engineers are designing robots to perform a seemingly impossible precision task in space — refuelling satellites that are traveling at thousands of miles per hour.

Space robots are not new to science fiction, and plenty of machines today perform complex scientific tasks on Earth and in space — from surgically correcting eye defects to helping astronauts on the International Space Station (ISS) during spacewalks. Several robots even dwell on the surface of other worlds, such as the Mars rovers: the now-defunct Spirit and the still-active Opportunity and Curiosity.

Since the beginning of the U.S. space program, approximately 5,000 satellites have been engineered, of which around 1,400 are in orbit now. Of those, only one is designed to be refuelled — the ISS, according to Benjamin Reed, a deputy project manager for NASA's Satellite Servicing Capabilities Office.

Present and future satellite designs will be better suited for servicing in space, but Restore-L will address special trials posed by earlier generations of satellites, thereby significantly extending their useful life spans, Reed said.

Once the servicing mission is ready to go, NASA probably won't deploy a squadron of refuelling robots — more likely, it will design an individual spacecraft capable of refuelling a dozen or more satellites, according to Reed.

The project's challenges are considerable, but the progress made by NASA scientists in recent decades is no less incredible, Reed told the audience. The first in-space servicing mission — a spacewalk to repair a damaged solar shield on Skylab — took place in 1973, and the 40 years that followed saw the design, launch and subsequent servicing of Hubble and the ISS — servicing conducted by both humans and robots, he said.

"What's the next 40 years going to bring? I don't know, but it sure is going to be fun to help make that happen," Reed said.

Technology Focus

Key Lessons From 'Petya' Ransomware Attack

While the cyber security community is still working to understand the latest ransomware attack that has reportedly hit 60 countries, there are key lessons to be learned.



Security researchers are struggling to reach consensus on whether the ransomware responsible for the latest global attacks is a new version of Petya or not, and even whether it was true ransomware, but what they have learned so far could help guide security strategies.

Those in support of retaining the Petya name point out that it essentially behaves in exactly the same way because it is designed to:

- Encrypt files on disk without changing the file extension
- Forcibly reboot the machine upon infection
- Encrypt the Master Boot Record on affected machines
- Present a fake CHKDSK screen as a cover for the encryption process
- Present a near-identical ransom demand screen after completing its activities

According to the latest update on the malware, Kaspersky Lab says code analysis has revealed it is

technically impossible to decrypt victims' disks.

To decrypt a victim's disk threat actors, need the installation ID, and in previous versions of "similar" ransomware like Petya/Mischa/GoldenEye, this installation ID contained the information necessary for key recovery, researchers at the security firm said.

However, they found the new malware – which they have dubbed ExPetr – does not have any such recovery mechanism, which means the threat actor could not extract the necessary information needed for decryption.

This view is supported by the latest statement from the UK National Cyber Security Centre (NCSC) that while managing the impact to the UK of the incident, the NCSC's experts have found evidence that questions initial judgements that the intention was to collect a ransom. "We are investigating with the NCA and industry whether the intent was to disrupt rather than for any financial gain," the NCSC said.

Whatever the true purpose, analysis of the malware has confirmed some of the lessons learned from WannaCry and added others which organisations should consider to improve their cyber defence capabilities against future threats.

The key lessons that have emerged so far are:

1. Having the latest versions of software and ensuring they are patched up to date will go a long way in reducing organisations' vulnerability to cyber-attack.
2. Malware is increasingly using legitimate tools for malicious activity to go undetected. In the case of ExPetr, two common Windows administrative tools, Windows Management Instrumentation Command-line (WMIC) and PsExec were used.

Like WannaCry, security experts say ExPetr proves that lateral movement is a serious security issue, however, environments that have adopted software-defined perimeter architectures to limit lateral movement are likely to see far reduced impact compared to traditional open enterprise networks, according to security firm Cyxtera Technologies.

3. Malware is hijacking software updating mechanisms to spread malware, and is likely to use this technique increasingly in future.

Microsoft has confirmed that in some cases ExPetr hijacked the auto update facility of the M.E. Doc tax accounting software that is widely used in Ukraine, which is why the country was particularly hard hit.

However, multiple PDF and Word attachment samples have been collected, which highlights the likelihood of malware using multiple propagation techniques and the importance of organisations ensuring they have systems in place to detect malicious email attachments.

4. An appropriate and well-tested backup and recovery plan for critical systems and data will go a long way to mitigating the effects of ransomware and other malware attacks, regardless of its particular characteristics.
5. Malware is abusing security tools to discover usernames and passwords, which means organisations should ensure they have appropriate systems and procedures in place to prevent credential abuse.

ExPetr uses the publicly available Mimikatz tool to obtain credentials of all Windows users in plaintext, including local administrators and domain users to spread itself on local networks.

Tech News

Indian IT Exports to Grow 7-8 Pct In 2017-18: Nasscom



The Indian IT sector is at an interesting inflection point and will hire 1.3 lakh to 1.5 lakh people this year, as the industry is focusing on re-skilling, new talent addition, according to Software and services industry body Nasscom that has issued guidance and trends of the IT sector for the current financial year, at a recent event held in Hyderabad.

The size of the Indian IT industry is pegged at \$154 billion. In terms of revenue generation, Nasscom said the industry had added \$11 billion revenue in the fiscal year 2017 with 8.6 percent growth in constant currency terms.

The body also said that it is expecting IT industry's services exports to grow 7-8 percent in the financial year 2017-18 as compared to 8-10 percent as was projected earlier. While Nasscom agreed that the sector was experiencing a lot of uncertainties, thanks to Britain's exit from the EU (Brexit), visa issues among several others, domestic IT services revenue is being expected to grow at 10-11 percent this fiscal, as the industry is well on its way on a transformational journey, with over 8000 firms offering digital solutions.

"The IT-BPM industry continues to demonstrate a sustained growth index. The industry has reinvented itself and its performance in the last fiscal (FY 2017) showcases how it has focused on building its digital solution offerings through a combination of business model changes and investment in products and platforms," said Chairman Raman Roy, even though he warned that it is imperative for new and existing talent to reskill to prepare for emerging job roles which required new skillsets.

"Manoeuvring through an uncertain phase over the past year, the industry has maintained its status as a key net hirer in the country and global technology and services hub," claimed Nasscom President R. Chandrashekhar at the news conference.

Noting that digital solutions and niche segments would be the key growth drivers, he said the revenue projection will be based on improvements in financial services and high potential in digital business.

"The fiscal year will see growth driven by the modernization of operations for client firms and the adoption of new technologies such as SaaS (Software As A Service) applications, cloud platforms, BI (Business Intelligence), cognitive and embedded analytics as enterprise customers scale digital projects," said the statement.

In terms of research and developments, Nasscom said that the IT industry made R&D investments in products and platform in digital in 2017. It informed that R&D investments have a longer gestation period, and the results will not be visible soon. Yet, it said that there has been a faster growth in ER&D, testing & analytics, and digital projects, now that companies are sharing more risk and reward with clients and digital have been driving smaller deals too. However, there has been a slow growth in traditional services.

Nasscom also confirmed that the "World Congress on IT" will be held in Hyderabad next year.

HPE, Wipro Bet on Pay-Per-Use IT



Hewlett Packard Enterprise (HPE) and Wipro teamed up to offer consumption-based IT, providing on-premises IT infrastructure with a pay-per-use model. The deal combines HPE's Flexible Capacity and Wipro's infrastructure-as-a-service (IaaS). Flexible Capacity is HPE's pay-per-use IT infrastructure service. UK-based insurance group RSA is a customer.

The new service gives customers public cloud benefits in their own data centres, said Olivier Suinat, senior vice president, global sales at HPE. "What we see in the marketplace is rapid acceleration of demand for a consumption-based model," Suinat said. "HPE's Flexible Capacity achieves cloud economy on-prem. You can scale capacity very quickly when you need it, and you only pay when you use it."

The go-to-market agreement builds on HPE and Wipro's 20-year partnership. It also reflects enterprises' expectation of public cloud benefits — like agility and scalability — and the need to keep some workloads on premises because of security and compliance needs, Suinat said. He also hinted at expanding the partnership with Wipro in the future. "I have no doubt that the partnership

with Wipro leveraging flexible capacity around infrastructure-as-a-service will continue to grow." It also reflects the growing demand for as-a-service models — for everything from database-as-a-service to security-as-a-service and infrastructure-as-a-service. The global everything-as-a-service, or XaaS, market will grow at compounded annual growth rate of nearly 40 percent from 2016 to 2020, according to a market research report from RNR.

Lenovo, Nutanix Team-Up Advances Hyper-Converged Infrastructure



The partnership between Lenovo Group Ltd. and Nutanix Inc. has been in the works for more than two years. Today, both companies are seeing business growth around their jointly engineered solutions, according to Kirk Skaugen, president of the data center group at Lenovo, who commented on how the two companies are coming together.

“With Nutanix we’re tightly integrating our management software with their Prism software [for datacenter operations management]. We’re looking at integrating some of the network topology work now with innovation. Rather than a legacy network that people are used to now, we moved to a hyperconverged infrastructure. ... So we’ve been innovating together now for almost two years,” Skaugen said.

Skaugen and Sudheesh Nair, president of Nutanix, spoke to Dave Vellante and Stu Miniman, co-hosts of theCUBE, SiliconANGLE Media’s mobile livestreaming studio, at this week’s Nutanix .

One of the primary assets Lenovo brings to the table is a true expertise in hardware development and support. Rather than try and compete up the stack like some of its competitors, Lenovo stays focused on its core competencies, Skaugen explained.

Lenovo’s focus on delivering top-quality hardware and service makes it a prime partner for software-defined organizations, such as SAP, which enables additional partnerships across the stack for Nutanix, according to Nair.

“One of the largest SAP partners is Lenovo, and by partnering with Lenovo we are now able to deliver a specific product series called Bridge to SAP HANA. We deliver certified HANA platforms on Lenovo along with the Nutanix software as a production testing environment next to that,” Nair said.

By doing so, customers can have a one-stop shop for analytics, enterprise resource planning and more, Nair concluded.

Special Focus

VMware Prepping NSX-As-A-Service Running from the Public Cloud

VMworld content catalogue lists live AWS services, Cross Cloud and OpenStack 4.0



The content catalogue for VMworld 2017 has appeared and as usual offers a few hints about announcements at the show and the company's future plans. Perhaps most interesting are the sessions pertaining to VMware's partnership with Amazon Web Services. One is titled “VMware NSXaaS - Secure Native Workloads in AWS”. The session description says “VMware NSXaaS provides you the ability to manage Networking and Security policies in Public Cloud environments such as AWS.”

Once we saw that “NSXaaS” reference we quickly spotted job ads that say “VMware NSX Team is building an elite team of DevOps/SRE engineers to run our crown jewel project “NSXaaS” on Public Cloud.” Whoever gets the gig will be “... responsible to run NSX as a Service Reliably with no down time. This will include proactively finding service reliability issues & resolving them as well as responding to customer tickets as a line of defence before involving development engineering.”

Suffice to say, it looks like VMware's going to NSX-as-a-service, which is interesting! Another session, “VMware Cloud on AWS - Getting Started Workshop” offers the chance to “Be among the first to see the new VMware on AWS solution. You will interact with the VMware Cloud interface to perform basic tasks and manage your public cloud capacity.” That description is like other AWS-related sessions in that it offers demos of actual services, which suggests to The Register's virtualization desk that come VMworld USA in late August VMware-on-AWS will either have been launched or be very close to a debut.

Session titles like “VMware Cross Cloud Services - Getting Started” suggest Cross Cloud will also debut at or before the show.

A session titled “VMware Integrated OpenStack 4.0: What’s New” suggests a new release is in the works, given that we're currently on version 3.1.

“VMware Cloud Foundation Futures” promises to show off “exciting new work being done using VCF as a platform in the areas of edge computing clusters, network function virtualisation, predictive analytics, and compliance.”



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- ✦ 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.

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