

TechTalk



Issue 68th, Feb 2018

Galaxy's "Internet of Things" Business Unit is now "Cyber Security & IoT"



Digital transformation across enterprises has improved user connectivity, productivity, and ushered in a new era of opportunities for transforming a typical workplace. All this while, we also see elimination of redundancies in form of reduced physical infrastructure, lesser capex, and greater process automation.

On the other hand, challenges due to changed user expectations are equally formidable. New concepts like BYOD

present a clear corporate need for selective access to corporate resources from employees' personal devices, or employee preference for securing their personal data also accessible from the same device. As concepts like "smart connectivity" look to mutually integrate our ecosystem of devices, we have now grown to recognize "data analytics" as a field of specialization. Companies have started hiring data scientists to understand their audiences better, and to make smart product and marketing decisions. Smart connectivity and Internet of Things again offer us an unprecedented opportunity to promote our security solutions to the next level, since as a rule, with connectivity comes the need for security!

Galaxy has always been at the forefront of adapting to change, innovating with the industry and more importantly, customer needs. We have now renamed our "Internet of Things" Business Unit to "Cyber Security & IoT". While we used to provide security solutions to customers earlier, a change in nomenclature reflects our resolve to dedicate more attention, effort and resources to grow in this segment to address customer needs.

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M.D. Speaks



"Dear Readers,

In my previous column, I mentioned that software robotics would emerge in a big way to perform repetitive tasks like data entry, validation, service desk chats etc. This will directly affect a very large number of tech jobs. NASSCOM predicts that as much as 25 percent of IT jobs will vanish in three years, but according to Gartner, this figure could eventually go as high as up to 70 percent.

One direct fallout of this will be how quickly the affected IT companies can retrain their workers for new roles. This is where my next trend prediction comes in - online education. The only way to re-skill such a large number of people in a short time, is through online courses. Companies who manage to do this rapidly will stand at an advantage to win the next set of contracts, that require these new skills.

As Arie de Geus, a business theorist, put it - "The ability to learn faster than your competitors may be the only sustainable competitive advantage."

Happy Reading"

A.P. Khungat

The Future is Now

The Next Generation of Cameras Might See Behind Walls

You might be really pleased with the camera technology in your latest smartphone, which can recognize your face and take slow-motion video in ultra-high definition. But these technological feats are just the start of a larger revolution that is underway. One day we may not even need cameras in the conventional sense any more. Instead we will use light detectors that only a few years ago would never have been considered useful for imaging. And they will be able to do incredible things, like see through fog, inside the human body and even behind walls!



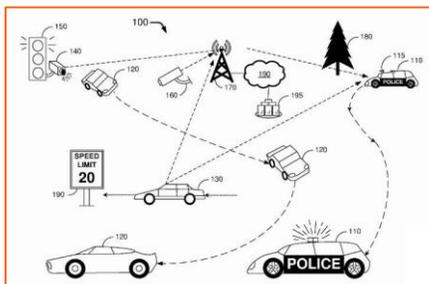
Single pixel cameras:

Typical cameras use lots of pixels (tiny sensor elements) to capture a scene that is likely illuminated by a single light source. But you can also do things the other way around, capturing information from many light sources with a single pixel. To do this you need a controlled light source, for example a simple data projector that illuminates the scene one spot at a time or with a series of different patterns. For each illumination spot or pattern, you then measure the amount of light reflected and add everything together to create the final image. Clearly the disadvantage of taking a photo in this way is that you have to send out lots of illumination spots or patterns in order to produce one image (which would take just one snapshot with a regular camera). But this form of imaging would allow you to create otherwise impossible cameras, for example that work at wavelengths of light beyond the visible spectrum, where good detectors cannot be made into cameras. These cameras could be used to take photos through fog or thick falling snow. Or they could mimic the eyes of some animals and automatically increase an image's resolution (the amount of detail it captures) depending on what's in the scene. It is even possible to capture images from light particles that have never even interacted with the object we want to photograph. This would take advantage of the idea of "quantum entanglement", that two particles can be connected in a way that means whatever happens to one happens to the other, even if they are a long distance apart. This has intriguing possibilities for looking at objects whose properties might change when lit up, such as the eye. For example, does a retina look the same when in darkness as in light?

Multi-sensor imaging:

We are currently witnessing a surge of interest for systems that use lots of information but traditional techniques only collect a small part of it. This is where we could use multi-sensor approaches that involve many different detectors pointed at the same scene. The Hubble telescope was a pioneering example of this, producing pictures made from combinations of many different images taken at different wavelengths. But now you can buy commercial versions of this kind of technology, such as the Lytro camera that collects information about light intensity and direction on the same sensor, to produce images that can be refocused after the image has been taken. The next generation camera will probably look something like the Light L16 camera, which features ground-breaking technology based on more than ten different sensors. Their data are combined using a computer to provide a 50Mb, refocusable and re-zoomable, professional-quality image. The camera itself looks like a very exciting Picasso interpretation of a crazy cell-phone camera. Yet these are just the first steps towards a new generation of cameras that will change the way in which we think of and take images. Researchers are also working hard on the problem of seeing through fog, seeing behind walls, and even imaging deep inside the human body and brain. All of these techniques rely on combining images with models that explain how light travels through or around different substances.

Ford's Patent Application Puts Focus on Autonomous Police Vehicles



Drivers thumbing their nose at speed limits may one day get a surprise when the police car springing out to nab them is driverless, if a concept from Ford were to be realized. The automaker filed for a patent for an autonomous police car.

Presenting the background on their idea, the patent stated, "While autonomous vehicles can and will be programmed to obey traffic laws, a human driver can override that programming to control and operate the vehicle at any time. When a vehicle is under the control of a human driver there is a possibility of violation of traffic laws. Thus, there will still be a need to police traffic." How would driverless police cars know which drivers are breaking rules of the road? Ford's patent filing describes a machine learning algorithm that would be able to determine whether or not a vehicle breaking the law warrants a warning

as opposed to a citation, and relay that decision to the driver. Reports about the filing on tech-watching sites said the vehicle would be equipped to detect speeding or could interact with stationary speed cameras. Sensors on the roadsides could assist the police. The police vehicle could function in the place of human police or in addition to human police. The patent discussion makes the observation that "Routine police tasks, such as issuing tickets for speeding or failure to stop at a stop sign, can be automated so that human police officers can perform tasks that cannot be automated."

The patent application in turn described autonomous police vehicles able to perform on behalf of human officers' tasks such as issuing tickets/citations to drivers who violate the traffic laws. The autonomous police car would pursue a speeding vehicle and confirm a speeding violation, in which case the autonomous police car could wirelessly connect to the original car to communicate with the passenger, verify identity, and issue a citation.

Technology Focus

Weigh Vendors, Tools in Software-defined Storage Products

There are many different factors to consider when choosing a private cloud platform. Evaluate the different paid and open source options to figure out which one is best for you.



It is an embarrassment of riches for IT pros considering paid or open source private cloud platform options. Some platforms are unique to specific vendors -- and pose some risk of vendor lock-in. Other vendors offer private cloud as a service, often partitioning a portion of the provider's public cloud infrastructure and dedicating that portion to a customer for their single tenant use as a private cloud. Finally, there are software frameworks that organizations can use to cobble together their own private cloud within the existing local data center. Your actual choice of private cloud platform will depend on many factors, including your current data center platforms, hybrid cloud goals -- if any -- security and support needs, current IT staff expertise, and cost limitations. Here is just a partial list of existing providers:

Apache CloudStack

An open source private cloud platform, Apache CloudStack offers a comprehensive management system that features usage metering and image deployment. It supports hypervisors including VMware ESXi, Microsoft Hyper-V, Citrix XenServer and KVM. CloudStack also handles features like tiered storage, Active Directory integration and some software-defined networking.

Eucalyptus

Eucalyptus software provides a modular, open source private cloud platform for CentOS and Red Hat Enterprise Linux environments capable of building Amazon Web Services (AWS)-compatible clouds. Eucalyptus is API-compatible with Amazon Elastic Compute Cloud, Simple Storage Service, Identity and Access Management, Elastic Load Balancing, Auto Scaling and CloudWatch services, enabling Eucalyptus to create hybrid clouds between local and AWS resources.

IBM Cloud Private

IBM Cloud Private offers a private cloud platform designed to create, deploy and manage containerized cloud applications and data using a platform installed behind the corporate firewall. IBM Cloud Private uses open source components including containers, Kubernetes and Cloud Foundry, and is intended to integrate with multiple public cloud providers.

Microsoft's Private Cloud

Microsoft's private cloud platform is part of System Center 2012 R2. It incorporates well-known tools, including System Center Virtual Machine Manager, Data Protection Manager, Endpoint Protection and Operations Manager, in one offering. System Center can support and manage Windows 2012 -- and later -- Hyper-V hosts, along with hypervisors from Citrix and VMware. It focuses on application delivery, automation and monitoring.

OpenNebula

The OpenNebula project attempts to offer a turnkey, versatile, feature-rich and vendor-agnostic platform for creating and managing private, public and hybrid clouds atop virtualized data centers. OpenNebula touts a self-service portal, comprehensive UIs, automated service management, a marketplace, performance and capacity management, high availability, and good integration across third-party tools.

OpenStack

OpenStack software builds on existing hypervisors to provision and manage compute, storage and networking resources as a complete open source cloud OS. It supports VMware ESXi, Microsoft Hyper-V, Citrix XenServer and open source KVM. Although OpenStack is free, it's complex and requires extensive expertise to deploy and utilize -- often leading to a significant cost for the business. Support is also community-driven, and it depends on knowledgeable staff to support effectively.

Platform9

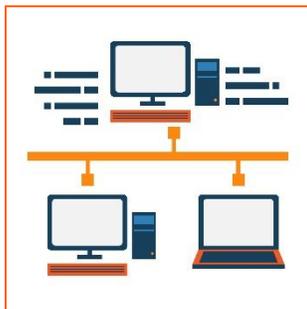
Platform9 is a third-party public-private hybrid cloud provider -- hybrid cloud as a service -- based on OpenStack, Kubernetes and Fission that enables organizations to create and manage hybrid clouds using the Platform9 service. However, this is primarily a management platform -- all data and workloads remain on site. Platform9 supports KVM, VMware vSphere and Docker. Since Platform9 handles managing OpenStack and Kubernetes and the essential hybrid cloud structure, users are relieved of the configuration and upgrade issues involved. Platform9 is an annual subscription-based service.

VMware vCloud Suite

Finally, VMware vCloud Suite is available in Standard, Advanced and Enterprise editions, each adding products and features. VCloud Suite supports hypervisors including Hyper-V and KVM. The Advanced edition adds vRealize Business for vSphere for cost management and consumption metering, while the Enterprise version includes vCenter Site Recovery Manager for policy-based disaster recovery. VCloud can also integrate with NSX, and supports both VMware Virtual SAN and OpenStack.

Tech News

Internet Exceeds 4 Billion Users, but 50% of Global Population Still Offline



The number of global internet users increased 7 percent in the last 12 months to hit over 4 billion mark, putting more than half the global population online, according to a global study, which noted that 80 percent of the world's Internet users are active on social media. While it is interesting to note that connectivity is already a way of life for most, earlier reports found that it is still appalling that more than half the world's population does not use the internet, with prohibitive broadband costs keeping billions offline.

The latest report jointly released by social platform Hootsuite and We Are Social, a socially-led creative agency that examined internet usage and social media trends around the world across 239 countries globally, observed that social media usage globally increased by 13 percent in the last 12 months, reaching 3.196 billion users. Of that, mobile social media usage has increased by 14 percent year over year to 2.958 billion users, with 93 percent of social media users accessing social from mobile. The report in its seventh year now revealed that Internet users are projected to spend a

combined total of 1 billion years online in 2018, of which 325 million years will be spent on social media, according to the report. "With four billion people now online, connectivity is already a way of life for most of us. However, as Internet companies strive to serve the next billion users, we'll see important changes in digital over the coming months. Audio-visual content will take priority over text - especially in social media and messaging apps - while voice commands and cameras will replace keyboards as our primary means of input. Social relationships and online communities will evolve to accommodate these new ways for people to interact with each other. This will result in rich new experiences for all of us, but businesses need to start preparing for these changes today," said Simon Kemp, Global Consultant, We Are Social.

The report also found that global growth of the Internet is propelling ecommerce forward, with 1.77 billion Internet users purchasing consumer goods online in 2017, an increase of 8 percent compared to a year ago. Collectively, consumers spent a total of USD \$1.474 trillion on ecommerce platforms in the past 12 months, 16 percent more than in 2016. "The Digital in 2018 report highlights the continuing growth of the Internet and social media to individuals and businesses around the world. To achieve competitive advantage, all executives must dive deep into digital now, meeting their customers where they are to best market, sell, and serve them," said Penny Wilson, CMO, Hootsuite.

In contrast, a United Nations report released in November 2016 by the UN's International Telecommunications Union (ITU) revealed that 3.9 billion people do not have home or mobile internet access and that the problem was most acute among the world's "female, elderly, less educated, lower income and rural (populations)." One problem is the cost of fixed-broadband access, which has fallen globally over the last decade but remained "clearly unaffordable" in many of the world's poorest countries, the ITU said. In 2008, the global average price for a basic fixed-broadband connection was \$80 per month, a figure which fell to \$25 a month last year, according to the ITU. But, in poorer countries a fixed-broadband monthly package with just one gigabyte of data—which is roughly the amount needed to download an average movie—still costs more than half of an average annual salary. With fixed broadband so expensive, mobile internet access can offer a solution to get more people online the ITU said, noting that mobile-broadband networks technically cover 84 percent of the world's population. But for many it is the cost of the handset, rather than the monthly subscription, which remained the biggest economic barrier to mobile internet access, as a result of which many users do not fully benefit from its potential.

Atos obtains the "France Cybersecurity" Label for its Identity and Access Management solutions



Atos, a global leader in digital transformation, has been awarded the "France Cybersecurity" Label for its identity authorization and access management solutions (IGA - Identity Governance and Administration), developed in France, through its Evidian range. This label was presented to Atos at the International Cybersecurity Forum (FIC) at a ceremony chaired by Mounir Macedo, Secretary of State for Digital.

Granted by Commission made up of institutions (Directorate General of Armaments, DGA; National Cybersecurity Agency of France, ANSSI; Directorate General for Enterprise, DGE), manufacturers and end-users, the "France Cybersecurity" Label recognizes the quality of French cybersecurity solutions in order to enhance their visibility on a

global level. The "France Cybersecurity" Label confirms the excellence of Atos' cybersecurity offering, already highlighted in the Nelson Hall report which positions Atos as number one in Europe and number four worldwide in Managed Security Services (MSS).

Sébastien Brachet, Managing Director of IGA/IAM activities within the Atos Group, says: "We are delighted to receive the "France Cybersecurity" Label again, which recognizes the expertise and the work of our dedicated R&D teams, which are based in France. Our Evidian IGA solution reduces risk while giving users more autonomy and access, at the right time, to the resources that they need. In an international environment where security has now become a major issue for our customers, wherever they are in the world, we are developing integrated solutions, offering complete and secure data processing, while exploiting the full potential of the Cloud. Thus, there are more than 5 million users, in 900 organizations over 5 continents, who take advantage of our secure solutions every day".

Tech News

Microsoft Disables Spectre Patch after Bugs Reported

The patch addressed a critical design flaw in chips made by Intel that could let hackers access information like passwords.



What is worse than the chip flaws that leak sensitive information? Apparently, some of the software updates meant to fix them. Over the weekend, Microsoft released an update that disables a patch to Intel CPUs after reports that the patch -- meant to fix a design flaw known as Spectre -- caused unexpected reboots and other problems. Intel called a halt to installations of the patch one week ago, but Microsoft's new update goes a step further and disables the patches on any computers that already had them installed.

It is the latest development in the rocky recovery process from the Spectre flaw. Researchers revealed in early January that hundreds of millions of chips made by Intel and AMD or built on Arm designs were designed in a way that could allow hackers to access sensitive information, such as passwords and encryption keys, essential to the security of a computer and its contents. That included the Spectre flaw as well as a similar flaw called Meltdown. Since then, some updates to chips made by Intel and AMD were revealed to cause their own problems. What's more, Intel faces concerns that the updates, even if implemented correctly, will slow down computer performance. Microsoft's new update, released Saturday, comes on the heels of Intel's quarterly financial disclosures. On Friday, Intel wrote in a press release that patches to its chips "may result in adverse performance, reboots, system instability, data loss or corruption, unpredictable system behavior, or the misappropriation of data by third parties."

In its announcement of the disabling update, Microsoft urged users to stay informed about the status of a patch for Spectre. "We understand that Intel is continuing to investigate the potential impact of the current microcode version and encourage customers to review their guidance on an ongoing basis to inform their decisions," Microsoft said.

Special Focus

IBM and Salesforce Strengthen Strategic Partnership



IBM and Salesforce, the global leader in CRM, today announced an expansion of their strategic partnership, bringing together IBM Cloud and Watson services with Salesforce Quip and Salesforce Service Cloud Einstein to enable companies to connect with their customers and collaborate more effectively with deeper insights. With this expansion, Salesforce has named IBM a preferred cloud services provider and IBM has named Salesforce its preferred customer engagement platform for sales and service.

"Naming IBM as a Salesforce preferred cloud services provider demonstrates the power of the IBM Cloud to help companies fundamentally change the way they do business," said Ginni Rometty, chairman, president and CEO, IBM. "This expanded partnership builds on the combined power of Watson and Einstein to help enterprises make smarter business decisions." "The success of our

customers drives everything we do at Salesforce, including our strategic partnership with IBM," said Marc Benioff, chairman and CEO, Salesforce. "The combination of IBM Cloud and Watson services with Salesforce Einstein and Quip will deliver even more innovation to empower companies to connect with their customers in a whole new way, leveraging the power of the cloud and AI."

As a part of this extended strategic partnership, IBM will build new IBM Watson Quip Live Apps, bringing the power of Watson and Quip together. These interactive custom-built applications will be embedded directly into any Quip document to increase the effectiveness of sales teams across the lifecycle of an opportunity. With Quip's document creation and editing platform, customers are able to bring relevant content, for any project, into a centralized document, removing the need to toggle between multiple windows and apps to get work done. Building on the first IBM and Service Cloud integration, the companies will bring together the power of IBM Watson and Service Cloud Einstein to deliver new AI-driven recommendations for next best actions. Now, with AI driven predictive analytics, companies will be able to create personalized, customer-triggered interactions based on the latest call or messaging chat they had, to help build stronger connections with their customers.

Today's news strengthens the partnership previously announced by IBM and Salesforce to deliver joint solutions that leverage the power of AI and enable companies to make smarter decisions, faster than ever before. With more than 4,000 joint customers, the partnership has already helped companies, such as Autodesk, implement new Watson solutions to connect more deeply with their customers.



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.

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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

"With our strategic partners we leverage each other's' capabilities to deliver reliable and integrated solutions to the customer. Our consultative sales approach, execution capabilities and commitments helps our customers meet a wide range of end-to-end technology needs while remaining focused on their core businesses."