LISTENING TO BUSINESS, APPLYING TECHNOLOGY

TechTalk

GALAXY

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Galaxy Emerges as a Leading Partner after DELL-EMC Merger

Channel partners and system integrators play a crucial role in empowering OEMs to achieve profitability and growth. OEMs in turn ensure that their partners are well equipped to stay relevant and meet demands of a fast changing market place. In line with this thought, Dell EMC recently announced the launch of an integrated Dell EMC Partner Program as a follow up to their merger, that preserves the best of two world-class legacy programs.

This unified program is said to embrace entire partner ecosystem of both legacy organizations and introduces new partnership tiers. These tiers have been developed to elevate Dell EMC partners over their competitors and establish a clear path to level-up. Categories include Titanium, Platinum and Gold, as well as a new status level within the Titanium tier, named "Titanium Black". The "Titanium Black" status is a special designation created to strengthen the relationship with partners who are extremely aligned with Dell EMC. This new partner program includes specific advantages and incentives, that align to the particular partner type and tier designation for a given partner. As partners progress their tier, their benefits increase. These could include generous rebates linked to driving new businesses, and also service sales including consulting, deployment, support and education services. These could also include rebates linked to driving an increase in training participations and selling the full portfolio.

This is good news for Galaxy! Often held in high esteem by our customers and peers in channel partnership landscape, we have had a long and fruitful association with both legacy DELL as well as EMC in the form of close and mutually beneficial relationships before they merged into a single entity. Thus, we are proud to be DELL EMC's Preferred partner under the new partnership tier hierarchy. Our objective is to help OEMs reach out to newer markets while also expanding the scope of our own capabilities, and we will continue to provide added value to our customers to help them realize their own business goals.

MD Speaks

"Dear Readers,

We have lately been witness to some interesting developments across the e-commerce landscape in the country. Of the three largest online shopping sites active in India, one is reportedly in deep trouble with allegations from sellers of not being paid on time. Of the remaining two, one has already faced a serious drop in its valuations. Apart from causing a wave of panic across sellers, logistics partners and bankers, this has resulted in a slowdown of cash infusion in non-profit making ventures, or ventures that have a longer payback timeframe.

To my mind, this slowdown signifies more caution and the need for higher investment prudence, and can only augur well for the universe of start-ups. Earlier, start-ups based on sound business models that really needed the funding were just not getting it, since it was diverted elsewhere into ventures that were 'too big to fail' – a clear case of putting good money after bad! Hopefully, this cash will now be made available to genuine start-ups with a strong revenue model, or to already profitable ventures that are looking to scale up.

As the current financial year draws to a close, I would like to thank all customers of Galaxy and all readers of Techtalk for their continued support. This year, apart from consolidating our positions in IT infrastructure consulting and deployment, we have established a very strong presence in the Enterprise Mobility Management space. In the coming year, we will continue to concentrate on these areas and also focus on IoT & Mobility solutions.

Happy Reading."

The Future is Now
MIT Develops Nanosensors That Can Profile Tumors
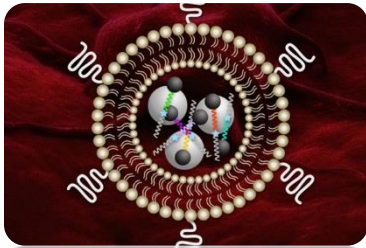
MIT researchers have designed nanosensors that can profile tumors and may yield insight into how they will respond to certain therapies. The system is based on levels of enzymes called proteases, which cancer cells use to remodel their surroundings. Once adapted for humans, this type of sensor could be used to determine how aggressive a tumor is and help doctors choose the best treatment, says Sangeeta Bhatia, the John and Dorothy Wilson Professor of Health Sciences and Technology and Electrical Engineering and Computer Science and a member of MIT's Koch Institute for Integrative Cancer Research.

"This approach is exciting because people are developing therapies that are protease-activated," Bhatia says. "Ideally you'd like to be able to stratify patients based on their protease activity and identify which ones would be good candidates for these therapies."

Once injected into the tumor site, the nanosensors are activated by a magnetic field that is harmless to healthy tissue. After interacting with and being modified by the target tumor proteins, the sensors are secreted in the urine, where they can be easily detected in less than an hour.

Heat and release: Tumors, especially aggressive ones, often have elevated protease levels. These enzymes help tumors spread by cleaving proteins that compose the extracellular matrix, which normally surrounds cells and holds them in place. In 2014, Bhatia and colleagues reported using nanoparticles that interact with a type of protease known as matrix metalloproteinases (MMPs) to diagnose cancer. In that study, the researchers delivered nanoparticles carrying peptides, or short protein fragments, designed to be cleaved by the MMPs. If MMPs were present, hundreds of cleaved peptides would be excreted in the urine, where they could be detected with a simple paper test similar to a pregnancy test.

In the new study, the researchers wanted to adapt the sensors so that they could report on the traits of tumors in a known location. To do that, they needed to ensure that the sensors were only producing a signal from the target organ, unaffected by background signals that might be produced in the bloodstream. They first designed sensors that could be activated with light once they reached their target. That required the use of ultraviolet light, however, which doesn't penetrate very far into the tissue.

Choosing treatments: In a study of mice, the researchers showed that they could use these particles to correctly profile different types of colon tumors based on how much protease they produce. Cancer treatments based on proteases, now in clinical trials, consist of antibodies that target a tumor protein, but have "veils" that prevent them from being activated before reaching the tumor. The veils are cleaved by proteases, so this therapy would be most effective for patients with high protease levels.

The MIT team is also exploring using this type of sensor to image cancerous lesions that spread to the liver from other organs. Surgically removing such lesions works best if there are fewer than four, so measuring them could help doctors choose the best treatment.

Bhatia says this type of sensor could be adapted to other tumors as well, because the magnetic field can penetrate deep into the body. This approach could also be expanded to make diagnoses based on detecting other kinds of enzymes, including those that cut sugar chains or lipids.

SEAS Engineers 3D Print the First Autonomous, Entirely Soft Robot
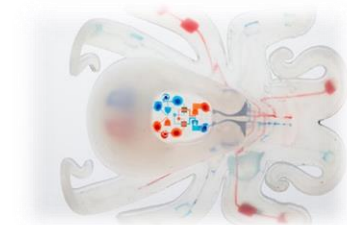
Using a 3D printer, Harvard engineers have demonstrated the first autonomous, untethered, entirely soft robot. The small robot — nicknamed the "octobot" — could pave the way for a new generation of such machines.

Soft robotics could help revolutionize how humans interact with machines. But researchers have struggled to build entirely compliant robots. Electric power and control systems — such as batteries and circuit boards — are rigid, and until now soft-bodied robots have been either tethered to an off-board system or rigged with hard components.

Robert Wood, the Charles River Professor of Engineering and Applied Sciences, and Jennifer A. Lewis, the Hansjorg Wyss Professor of Biologically Inspired Engineering at the Harvard John A. Paulson School of Engineering and Applied Sciences (SEAS), led the research. Lewis and Wood are also core faculty members of the Wyss Institute for Biologically Inspired Engineering at Harvard University."One longstanding vision for the field of soft robotics has been to create robots that are entirely soft, but the struggle has always been in replacing rigid components like batteries and electronic controls with analogous soft systems and then putting it all together," said Wood. "This research demonstrates that we can easily manufacture the key components of a simple, entirely soft robot, which lays the foundation for more complex designs."

"Through our hybrid assembly approach, we were able to 3-D print each of the functional components required within the soft robot body, including the fuel storage, power, and actuation, in a rapid manner," said Lewis. "The octobot is a simple embodiment designed to demonstrate our integrated design and additive fabrication strategy for embedding autonomous functionality."

Octopuses have long been a source of inspiration in soft robotics. These curious creatures can perform incredible feats of strength and dexterity with no internal skeleton.

Harvard's octobot is pneumatic-based, and so is powered by gas under pressure. A reaction inside the bot transforms a small amount of liquid fuel (hydrogen peroxide) into a large amount of gas, which flows into the octobot's arms and inflates them like balloons.

Technology Focus

10 Tips for a Successful Cloud Plan

Foundational best practices for starting up an IaaS deployment. How do you get started using the cloud?

For some organizations, cloud usage has already begun by someone in the company - whether they know it or not. But to have a successful cloud deployment, it's helpful to have a plan. Following 10 tips are key for a successful cloud rollout.

Galaxy Business Solutions is one of many companies that help customers adopt public IaaS cloud computing resources. Galaxy says the following 10 tips are key for a successful cloud rollout.

1. Alignment workshops: After a company has made a decision to use IaaS cloud computing services, it's helpful to have a level-set meeting with important stakeholders of the company to get everyone on the same page. Typical groups involved in this meeting would be security managers, finance and procurement professionals, infrastructure engineers, operations workers and third-party consultants. Typically, a senior IT manager or CIO leads the process. It's important to have a clear message to this group of why the cloud is being explored.

2. Know your economics: One of the first considerations that will inevitably come up is cost. There is no simple calculation for determining if the cloud will be more or less expensive than on-premises infrastructure; there are too many variables. It's important to know that different architectural designs will determine cost. For example, if your app requires an active-active high availability architecture across multiple data centers, that will increase costs compared to a single instance deployment. If you can sign a long-term contract to use virtual machines, you get a discount. The way you deploy the cloud will determine whether it makes sense financially for you.

3. Find agreement: If you have a faction within the organization that is against the cloud, this will be difficult. Get on the same page and make sure any outstanding concerns are addressed before moving forward. Executive buy-in can help.

4. Establish a Cloud Business Office: After there is agreement to move forward, create a cloud Business Office (CBO). Some call it a Cloud Council or a Center of Excellence. It's basically a group that will be the point people for the deployment. Typically, the team will be made up of cloud engineers, compliance/risk officers, application owners, IT, finance and third-party representatives. The goal of the CBO is to have a body that will make decisions. Unlike the Alignment Workshop, whose goal it was to decide whether the cloud will be used, the CBO will be responsible for making execution decisions about how the cloud will be used.

5. Discovery: With a CBO in place, more detailed planning can begin. Discovering the full landscape of your environment and mapping the dependencies and relationships of applications and processes is a good first step. Take an inventory of what you have and begin to target what will move to the cloud.

6. Security assessment: Before you migrate anything to the cloud, determine what your security profile will be. What standards do you want to set your cloud usage to (PCI? ISO 27001?). The Cloud Security Alliance has a lot of good information on this topic, particularly their Cloud Security Alliance's Cloud Controls Matrix can help you think about approaching cloud security architectures.

7. Create a minimum viable cloud: Don't go all in initially. Once you have a couple or handful of applications that have been targeted at low-hanging fruit for moving to the cloud, begin the process of the migration. The idea here is to get some early successful wins that will become the basis for repeatable processes for further migrations. Think of it as a hub-and-spoke model. Core services that apply to the entire cloud environment are in the "hub", including monitoring, logging and security and encryption policies. The "spokes" are applications that adhere to the policies defined in the central hub. This creates an automated, repeatable way to deploy services.

8. Governance: Controlling usage of your cloud is critical. It's important to have someone constantly keeping tabs on what is going on in the cloud environment, be alerted to unusual activity and enforce policy rules. Which workers have access to which services in the cloud (a developer can only spin up a certain number of virtual machines, whereas a manager has more freedom). Tags can be assigned to every action that is done in an environment by a user so it's easy to track who is doing what. Limit access to administrative settings and use two-factor authentication. Set up cost analysis tools for right-sizing VM instances and use tools for sniffing out services that are being paid for but not used.

9. Automation and Validation: You do not want to be building snowflake designs for each new app deployed to the cloud. Manual processes lead to errors and security vulnerabilities at scale. Automate wherever possible. Create a standard architectural pattern for applications. Then, use tools to automate their provisioning and monitor their deployment. Validate deployments to ensure they meet your standards.

10. Prepare for migration at scale: You've deployed a couple of apps. Now you're ready for more. Determine which apps can be moved and which cannot. Break apps down into four categories: Re-host (only light changes needed), re-platform (just change the infrastructure host), re-factor (some code changes are needed for the app), replace (app needs to be rewritten), retire (get rid of the app). Using your automation processes, begin migrating the low-hanging fruit and develop a plan with the CBO on how other apps can move in the future.

Tech News

SpaceX to Shoot Two Tourists Around the Moon

The private space company will fly two private citizens along the same path as Apollo 8 from the same launch pad -- almost 50 years later.

SpaceX is set to launch what's probably the longest charter flight in history as soon as late 2018. CEO Elon Musk said recently that his private rocket company will send two paying customers on a flight around the moon.

"Like the Apollo astronauts before them, these individuals will travel into space carrying the hopes and dreams of all humankind, driven by the universal human spirit of exploration," the company said in a statement. "We expect to conduct health and fitness tests, as well as begin initial training later this year."

No personal information about the private citizens paying for the trip was disclosed. The company did say they have already put down a "significant deposit" and other flight teams have expressed interest in booking a similar trip. The tourists will fly aboard a Dragon Crew spacecraft launched from Earth by a Falcon Heavy rocket.

Blue Origin and Virgin Galactic also plan to offer space tourism flights, mostly at the suborbital level. SpaceX is the only commercial space company promising a trip this out of this world.

In a conference call with reporters, Musk implied that NASA could jump to the front of the line if it wanted to fly a similar mission with SpaceX.

Musk also said the cost would be similar to flying a private citizen to the International Space Station. A decade ago, a similar trip cost about $25 million. It's tough to say how much inflation has affected the cost of space tourism since then, or what kind of a premium one might expect to pay to fly in a new Dragon capsule from Florida rather than a Soyuz rocket launched from Kazakhstan. The private mission around the moon sounds as though it will essentially retrace the path of Apollo 8, which famously spent Christmas Eve orbiting the moon in 1968. The company says the spacecraft will lift off from Kennedy Space Center's historic Pad 39A, where the Apollo missions were also launched. SpaceX recently conducted its first mission since taking over the launch pad earlier this month.

HPE, Tata to Build India's largest IoT Network

Hewlett Packard *Enterprise* (HPE) said that it was working with Tata Communications to support the roll-out of India's first LoRaWAN (LoRa) based network. The company made this announcement at Mobile World Congress 2017.

Tata Communications unveiled plans for the LoRa *network* last year. It is part of Tata Communications' long-term strategy of creating mobile platforms and ecosystems that enable its customers and partners to connect people and IoT-connected devices seamlessly on a global scale. The first phase of the roll-out targets Tier 1, 2, 3 and 4 cities in India, touching over 400 million people. Alongside successful field trials in Mumbai, Delhi and Bangalore, there are also 35 proof-of-concept applications in a trial on the network. The association between Tata Communications and HPE paves the way for a new era in enabling devices with embedded connectivity for enterprise customer solutions throughout the country. The project involves connecting devices, applications and other IoT solutions over the LoRa network in smart buildings, campus, utilities, fleet management, security and healthcare services in nearly 2,000 communities, covering over 400 million people, making it the first-of-its-kind initiative in India.

"Tata Communications has 15 years of experience in delivering impactful and innovative communications solutions to its customers globally," said Anthony Bartolo, president, Mobility, IoT and Collaboration Services, Tata Communications. "As part of our commitment to innovation and in driving digital transformation globally, we are creating a cohesive, resilient and highly secure network to deploy IoT applications in India. We are excited to be partnering with HPE in this project as this platform is critical to amalgamating all the complex variables in enabling a truly digital India."

Designed for massive scale, multi-vendor and multi-network support using the one M2M interoperability standard, the HPE Universal IoT Platform streamlines interoperability and management of heterogeneous IoT devices and applications that power the intelligent edge. The platform supports long-range, low-power connectivity deployments, as well as devices that use cellular, radio, Wi-Fi and Bluetooth. Recent enhancements announced for the HPE Universal IoT Platform include increased LoRa gateway support, enabling the use of multiple LoRa gateways with a common set of applications to simplify device provisioning and control in heterogeneous LoRa environments.

"The sheer size of this project is incredible, bringing new services to millions of people," said David Sliter, vice president and general manager, Communications Solutions Business, HPE. "Through our partner centric approach, the HPE Universal IoT platform will enable Tata Communications to build multiple vertical use cases for its Indian IoT network on a common platform with a common data model."

Tata Communications has also selected HPE to be an integral part of its global cellular IoT connectivity services. This provides a range of domestic and cross-border IoT connectivity and management services, particularly for applications requiring elements of mobility, such as connected cars, fleet management and transportation services.

The global market for all things related to the 'Internet of Things' is estimated to grow from 6 billion in 2015 to 27 billion in 2025, a CAGR of 16%, states a report by Machina Research and the total IoT revenue opportunity is estimated at USD 3 trillion in 2025 (up from USD750 billion in 2015).

Tech News
Ransomware Doubled in Second Half of 2016: Check Point

Ransomware has grown into one of the biggest dangers in 2016, and is posing a constant *threat* to businesses and consumers. As a recent report by Check Point noted that Ransomware doubled during the period July and December 2016.

Out of all recognized *malware* incidents globally, the percentage of ransomware attacks increased from 5.5 percent to 10.5 percent within the period. The H2 2016 Global Threat Intelligence Trends Report is based on threat intelligence data derived from Check Point's ThreatCloud World Cyber Threat Map.

"The core issue with ransomware is the general lack of strong pro-active security practices. The ability of hackers to receive payments via Bitcoin has greatly improved ransomware's effectiveness. To effectively deal with zero-day ransomware, a multi-layered security architecture is the need of the hour. While real-time behavioral analysis to identify attacks before they begin to encrypt data is required, it is equally important to track down ransomware that evades the initial analysis," said, Bhaskar Bakthavatsalu, MD, Check Point, India and SAARC. "

The research reveals that the most prevalent malware during the period was the Conficker worm that allows remote operations and malware download. The infected machine is controlled by a botnet, which contacts its Command & Control server to receive instructions, which comprised 14.5 percent of all attacks in the period. This was followed by Sality (6.1 percent), a virus that allows remote operations and downloads of additional malware to the infected systems by its operator; Cutwail (4.6 percent), a botnet mostly involved in sending spam e-mails and distributed denial of service (DDOS) attacks; JBossjmx (4.5 percent), a worm that targets systems having a vulnerable version of JBoss Application Server installed; and Locky (4.3 percent), a ransomware, which started its distribution in February 2016, and spreads mainly via spam emails containing a downloader disguised as a Word or Zip file attachment, which then downloads and installs the malware that encrypts the user files. The percentage of ransomware attacks out of all recognized attacks globally almost doubled in the second half of 2016, from 5.5 percent to 10.5 percent. The most common variants detected were, Locky (41 percent), Cryptowall (27 percent), Cerber (23 percent). The top mobile malware during H2 2016 include Hummingbad (60 percent), Triada (9 percent), Ztorg (7 percent). While, top banking malware include Zeus (33 percent), Tinba (21 percent), Ramnit (16 percent) highlights the research.

Special Focus
Radicati Positions VMware AirWatch as EMM Top Player
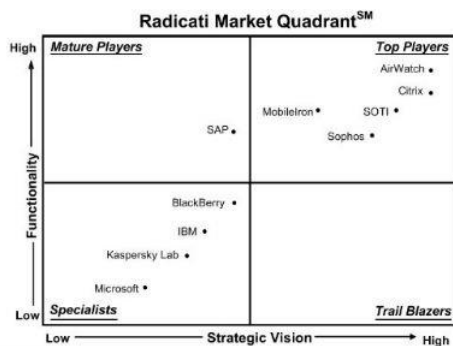
The VMware AirWatch enterprise mobility management solution once again ranked as a top player in this year's Radicati Market Quadrant for EMM. Radicati, a technology industry research firm, positioned AirWatch in the highest spot along both axes for functionality and strategic vision. This report marks the sixth year AirWatch ranked as a top player, demonstrating a continued commitment to innovation in the evolving EMM industry.

According to Radicati, top players are the current market leaders that not only offer robust solutions now, but also visionary solutions for the future. Here are five reasons why Radicati ranked AirWatch as a top player in the EMM market for 2017:

1. **Unified endpoint management:** Through a single console, IT admins can manage a wide variety of devices and operating systems, from iOS smartphones and Android wearables to Windows 10 laptops.

2. **Digital workspaces:** The AirWatch platform also powers VMware Workspace ONE. With this secure digital workspace, organizations can manage to bring-your-own (BYO) and corporate-owned devices, mobile apps, identity, data and compliance. Radicati noted that even non-compliant devices without a network connection can be remotely wiped with AirWatch.

3. **Comprehensive mobile ecosystem:** Alongside comprehensive support for various operating systems, AirWatch integrates with leading technology vendors and custom enterprise apps via the AirWatch software development kit (SDK). AirWatch Content Locker, for example, integrates with Microsoft SharePoint, Office 365, Box, Dropbox and other content repositories. This strong mobile ecosystem helps users securely access all corporate content from a single mobile app.

4. **Data loss prevention:** In addition to Content Locker, Radicati also called out AirWatch support for email access and management, as well as the secure VMware Browser. These features and secure productivity apps allow users quick and secure access to corporate resources.

5. **Flexible deployment:** Customers deploy AirWatch as a Software-as-a-Service (SaaS), on premises or a hybrid cloud solution to meet each organization's unique needs—from the SMB to large enterprise.

At this stage, top players must fight complacency and continue to innovate, according to Radicati.

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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	Galaxy Technology Services
System integrators of best of breed technologies to deliver solutions to the problems and challenges that confront enterprises	Skilled pool of resources consistently maintains and delivers enterprise class service levels
Galaxy Network Solutions	**Galaxy BI Consulting Services**
One of India's most trusted active and passive networking specialists	Helps organizations to deliver and leverage business intelligence to create substantial business impact

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."