

# TechTalk



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## Galaxy Participates in CIO Manufacturing Summit in Mumbai



IDG is a leading technology media, data and marketing services organization that influences technology buyers across various industries. On the other hand, Galaxy since its inception has always been cognizant of customer needs and expectations, to alleviate their challenges and help them attain their core business objectives. We gather key market and customer data from multiple touchpoints, analyze buyer behavior and finally offer state-of-the-art custom solutions that are affordable, and in tune with changing technology landscape over next few years' time horizon.

Therefore, it comes as no surprise that our paths often cross with various IDG initiatives. While we are releasing this latest edition of TechTalk, Galaxy is participating in IDG's **CIO Manufacturing Summit** at ITC Maratha in Mumbai on 13<sup>th</sup> March, 2018. Govt. of India has launched a target to increase share of Manufacturing in India's GDP to 25%, by 2025. The fifth Industrial revolution is geared towards more advanced human-machine interfaces. Thus, some of the key themes at this event include IoT, Robotics, Cognitive man-machine Interface and GDPR Compliance in manufacturing. Delegates for this event include senior IT professionals from manufacturing enterprises.

Galaxy is partnered with HPE for this event, and has a dedicated presence in the Exhibit Zone. Nishant Jalan [*Director – Cyber Security & IoT*], and Pratap Vichare [*Director – Enterprise Coverage*] are representing Galaxy to connect with prospects, create dialogue and deepen relationships, and open up new opportunities to work together!

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## M.D. Speaks



"Dear Readers,

*The large scale banking fraud by famous brands and established businesses would not have escaped those of you who are following the recent events in India. It seems that what has come out so far is just the PROVERBIAL tip of the iceberg. In this highly inter-connected world, it seems preposterous that such large scale scams can pass through all checks and balances, that are in place to prevent this very thing from happening. Records tampering and deletion, forged signatures, fake approvals, forged documents and a number of other measures have apparently been used to defraud the Indian taxpayer of billions of dollars. But guess what? Today's technologies have solutions for all these measures. Blockchain along with digital signatures and a robust business intelligence system could have easily prevented these frauds from being kept under wraps for so long. This should serve as yet another reminder for the BFS sector to embrace these technologies without any further delay.*

*As cryptocurrencies are still struggling to find their true price, the underlying technologies can be leveraged to create tremendous value. This is one space that needs to be closely followed, as solution providers investing in learning and honing these skills will race ahead.*

Happy Reading"

*M.D. Mishra*

# The Future is Now

## A New Data Trove to Teach Computers to the Blind

Its creators pose a challenge to machine vision researchers: use the information to make assistive technology better.



One of the hardest tasks for computers is “visual question answering”—that is, answering a question about an image. And this is no theoretical brain-teaser: such skills could be crucial to technology that helps blind people with daily life. Blind people can use apps to take a photo, record a question like “What color is this shirt?” or “When does this milk expire?”, and then ask volunteers to provide answers. But the images are often poorly framed, badly focused, or missing the information required to answer the question. After all, the photographers can’t see. Computer vision systems could help, for example, by filtering out the unsuitable images and suggesting that the photographer try again. But machines cannot do this yet, in part because there is no significant data set of real-world images that can be used to train them.

Enter Danna Gurari at the University of Texas at Austin and a few colleagues, who today publish a database of 31,000 images along with questions and answers about them. At the same time, Gurari and co set the machine-vision community a challenge: to use their data set to train machines as effective assistants for this kind of real-world problem. The data set comes from an existing app called VizWiz, developed by Jeff Bigham and colleagues at Carnegie Mellon University in Pittsburgh to assist blind people. Bigham is also a member of this research team. Using the app, a blind person can take a photograph, record a question verbally, and then send both to a team of volunteer helpers who answer to the best of their ability.

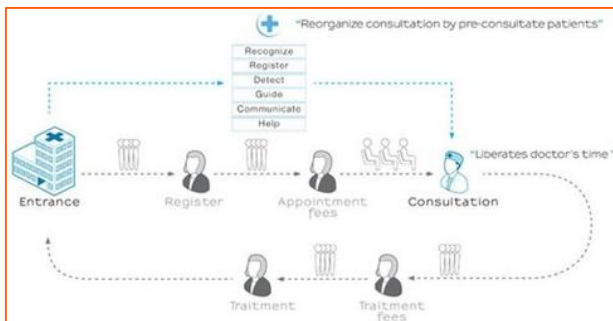
But the app has a number of shortcomings. Volunteers are not always available, for example, and the images do not always make an answer possible. In their effort to find a better way, Gurari and co started by analyzing over 70,000 photos gathered by VizWiz from users who had agreed to share them. The team removed all photos that contained personal details such as credit card info, addresses, etc. That left some 31,000 images and the recordings associated with them. The team then presented the images and questions to workers from Amazon’s Mechanical Turk crowdsourcing service, asking each worker to provide an answer consisting of a short sentence. The team gathered 10 answers for each image to check for consistency. These 31,000 images, questions, and answers make up the new VizWiz database, which Gurari and co are making publicly available.

The team has also carried out a preliminary analysis of the data, which provides unique insights into the challenges that machine vision faces in providing this kind of help. The questions are sometimes simple, but by no means always. Many questions can be summarized as “What is this?” However, only 2 percent call for a yes-or-no answer, and fewer than 2 percent can be answered with a number. And there are other unexpected features. It turns out that while most questions begin with the word “what,” almost a quarter begin with a much more unusual word. This is almost certainly the result of the recording process clipping the beginning of the question. But answers are often still possible. Take questions like “Sell by or use by date of this carton of milk” or “Oven set to thanks?” Both are straightforward to answer if the image provides the right information.

The team also analyzed the images. More than a quarter are unsuitable for eliciting an answer, because they are not clear or do not contain the relevant info. Being able to spot these quickly and accurately would be a good start for a machine vision algorithm. And therein is the challenge for the machine vision community. “We introduce this dataset to encourage a larger community to develop more generalized algorithms that can assist blind people,” say Gurari and co. “Improving algorithms on VizWiz can simultaneously educate more people about the technological needs of blind people while providing an exciting new opportunity for researchers to develop assistive technologies that eliminate accessibility barriers for blind people.”

## Smart Consulting Service by Arthur Kenzo

This invention will enable patients register and get a pre-consultation before going to a doctor in-charge.



Arthur Kenzo presents an innovative machine, Smart Consulting Service that might introduce more efficiency to a registering process at a hospital.

This invention will enable patients register and get a pre-consultation before going to a doctor in charge. The machine, situated at the hospital entrance, is equipped with a micro, a camera and a touchscreen interface; these devices can scan the patient’s health card, check his / her vital signs and diagnose an illness. Then the service will guide a patient to make an appointment with a proper doctor and send patient’s information and preliminary diagnosis to the assigned doctor.

# Technology Focus

## Creating a Private Cloud with Minimal Issues

Organizations creating a private cloud must contend with a multitude of issues, including security, performance, scalability, staff expertise, visibility and service management.



### Address security concerns

Security is one of the biggest concerns facing private cloud adopters. Security is a complex issue, and it demands a strong understanding of the ever-changing threat landscape. Implementing properly deployed security tools necessitates well-developed security policies and properly deployed tools. Many individual organizations creating a private cloud struggle with security due to a lack of tools and the expertise needed to use them. Moving from a traditional data center to a private cloud brings new automation, self-service and other features that most organizations and IT staff are ill-equipped to handle. It's easy to make mistakes that open security vulnerabilities that could jeopardize the business. Security problems are even more pronounced as the business attempts to create hybrid clouds. Shifting data and workloads will create challenges in handing off security tasks between public and

private entities, potentially creating new vulnerabilities to address.

### Achieve optimum performance

A private cloud should provide complete control over the infrastructure. Although this kind of insight and control should ideally enable the best performance for workloads, there's absolutely no guarantee that a private cloud will provide better performance than a public cloud. Similarly, there's no guarantee that a private cloud will be any more immune to failures or outages than a public cloud. Organizations that adopt a private cloud will need to design a resilient, high availability infrastructure and deploy critical backup/recovery frameworks to preserve private cloud availability. It's also important to implement performance monitoring and reporting tools that can objectively measure key performance indicators, help spot performance bottlenecks in the private cloud infrastructure and quickly alert IT staff to remediate performance problems when they arise. The goal is to prevent private cloud users from being affected by performance problems and outages.

### Consider scalability needs

A central benefit of cloud computing is scalability -- the ability to add more compute, storage and network resources to workloads that demand it. Although scalability is also part of the private cloud, there are scalability concerns that private cloud owners must consider. For example, public cloud providers deal with economies of scale as part of their business, but private cloud owners typically don't. Many private clouds simply won't have the resources -- or budget -- available to accommodate unexpectedly high storage or compute usage. In actual practice, the capital invested in creating a private cloud will be limited. This means the sheer volume of available resources will also be relatively limited. Private cloud adopters will need to consider the impact of workload usage changes, particularly if usage vastly exceeds planned levels. Many private clouds simply won't have the resources -- or budget -- available to accommodate unexpectedly high storage or compute usage. These situations might necessitate the adoption of hybrid clouds to leverage the greater scalability of public clouds for workloads with unexpectedly high usage levels.

### Gain the necessary expertise

Many organizations underestimate the role of expertise in private cloud deployment -- especially when attempting to use powerful open source frameworks such as OpenStack. Successful private cloud projects require an IT staff that is well-versed in the related platform, and that is able to deploy, configure and manage the platform. This might require a prolonged period of training and experimentation before attempting to roll out a private cloud offering to production. In other cases, additional IT staff might need to be hired specifically to handle the private cloud deployment.

### Maintain network visibility

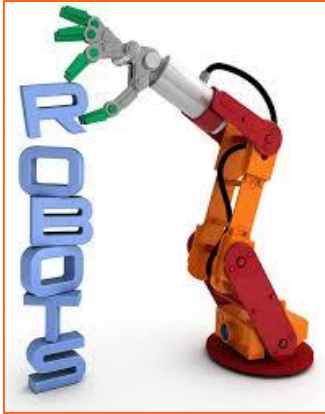
Network visibility can be another problem organizations encounter when creating a private cloud. Most public clouds limit the visibility into network traffic, but even private clouds can suffer from limited visibility of traffic flowing between VMs on the same servers -- dubbed east-west traffic. Private cloud adopters will need to implement a new level of traffic monitoring, analysis and reporting tools capable of watching traffic between VMs, as well as the traditional traffic exchanged between servers and other network devices.

### Offer important services

Finally, private clouds can be constrained by the variety and capability of available cloud services. Public clouds, like Amazon Web Services, offer an extensive menu of services that users can employ, such as auto-scaling and high availability. But these services are created and managed by the public cloud provider. To utilize such services on a private cloud, the private cloud owner must create those services and make them available to private cloud users. The challenge is the investment of time and money needed to create those services. In most cases, a private cloud will simply not be able to replicate the full suite of offerings found in public clouds. Many private cloud owners will roll out a small suite of important services initially, and then add services over time as budgets and business needs dictate.

# Tech News

## Rise of Chief Robotics Officer in the Enterprise



The use of smart machines and robotics in the enterprise has given rise to a new role in the C-suite in recent times – **Chief Robotics Officer**. In a short span of time, robotics has brought a paradigm shift in the operational technology of companies that depend highly on it. Robots are speeding up and changing the nature of many jobs that require manual efforts. The need for robotics to improve supply chain or manufacturing business processes by managing the blend of human and robotics and automated workers, is only going to increase in time to come. This would essentially mean that management would require to strategize appropriately to make best use of robotics or smart machine technologies in order to manage robotics workers in supply chain processes. This is where Chief Robotics Officer (CRO) comes into the picture.

By 2020, Gartner predicts, “10% of large enterprises in supply-chain-dependent industries will have created a CRO position to oversee the blending of human and robotic workers.” As robots become less expensive and more capable, they’ll disrupt business processes in most industries just as digitization is doing now. New competitors that embrace robotics will put pressure on incumbents, and CROs will play a key role in bringing innovation, focus, efficiency and agility to these enterprises, says Gartner.

Experts have articulated the roles and responsibility of a Chief Robotics Officer for a better clarity. This includes:

- Effectively blend engineering, IT, HR to create team / organization / management structure, management of different aspects of robotics life cycle.
- Articulate ways and means to improve the robotics / smart machines over a period of time, design and development of effective principles, processes and disciplines for managing robotics workers or smart machines.
- Define robotics environments and integrate touch points with other business units such as supply chain etc. define governance processes to manage robotics workers or smart machines.
- Address compliance / regulatory issues, safety, reliability and interoperability issues, define and develop management techniques to manage robotics workers from time-to-time.

A CRO is as important as a Chief information officer to an enterprise. The market is on a rise for robots from a perspective for a consumer and a manufacturer, the need for a smooth transaction and to handle the daily involvement with robot is of vital importance and this will lead for more job opportunities, mostly for a CRO, believe experts. With the increase in robots according to the current trend, it is easy to say this opens a lot of job doors for a CRO. Some of the popular consultancy portals have already started to post jobs under the designation of a CRO. One of the most admired jobs for a computer engineer, having skills in mathematics and networking can opt for such a position. Hence, as much as the robotics industry expands, it will make a push towards the creation of CRO as a post in the industry. In the coming years, CRO’s role will become mainstream and the industry needs to rejoice about it since robotics will continue to increase its dominance in the enterprise.

## Three Areas Where Cloud Will Emerge More Powerful

Cloud computing has been capturing a bigger market and multiplying its influence in the daily business operations in recent times. It can also be said that the tech world has realized its potential and is being seamlessly incorporated into everyday life. The signs have been encouraging and the world could see an explosion of cloud computing and its application in near future. Here are three areas where we feel that cloud will have a bigger say going forward.



**Creating smart cities for tomorrow:** - It is estimated that by the year 2045, 6 billion of the world’s population will be living in the cities which will operate on a digital infrastructure platform provided by the cloud. These cities will have an array of digital properties which includes smart elevators and parking lots, driverless cars and drone taxis, trains and subways, farms and power plants. All these will be operated using the data stored and analyzed by cloud. As an example, an airline can use cloud to manage their key requirements like maintenance, fueling, baggage handling, and cabin cleaning, thereby increasing efficiency and helping flights take off on time. Enterprises today need a highly functional digital platform to produce efficient business operations. Cloud makes a difference where it changes ICT from a support system into a production system.

**Data management:** - With every passing day, the volume of data generated is increasing across the globe. It requires an efficient system to store and analyze this data. Cloud is that system. There is no use, until and unless the data collected is stored safely and can be used when need. Cloud provides a one-point solution to all the data management requirements.

**Smart Phones and video features:** - In 2011, mobile phone triumphed PCs to become the largest computing platform in the world. As the sales skyrocketed for the smartphones, Artificial Intelligence has been also capturing the mobile sector. Considering the fact that mobile phones come across unstructured data of large scale on a daily basis, it needs to send the data to a powerful cloud server to analyze them as the processing capacity of the phones doesn’t meet the requirement.

# Tech News

## Amazon May Stop Selling Google's Nest Products

Thermostats and home security products are expected to disappear from the online retailer's site, reports Business Insider.



Amazon may stop stocking Google's Nest line of products, continuing the companies' already rocky history of support for each other's products. According to a Business Insider report, Amazon told Nest late last year that the online retailer wouldn't be listing any of Nest's newer products, which include a smart thermostat and other home appliances.

Amazon declined to comment on the BI report, and Google didn't respond to a request for comment. When the listings disappear, Nest products might still be available from independent sellers on Amazon. Otherwise, they'll be going the way of Google's Chromecast and Home speakers, neither of which is in stock on Amazon and which compete, respectively, with Amazon's Fire TV streamers and Echo speakers.

The news comes days after Amazon bought Ring, the maker of the Ring Video Doorbell. Amazon has also been beefing up its own home security products, such as its Cloud Cam.

# Special Focus

## VMware Unveils New-edge Computing to Bolster Enterprise IoT Efforts

Announced at Mobile World Congress 2018, the solutions will come through partnerships, focus on asset management and smart surveillance.

VMware continued its enterprise Internet of Things (IoT) push at Mobile World Congress on Wednesday, unveiling a host of new edge computing solutions that address use cases in asset management and surveillance. The solutions are being developed through industry partnerships with firms such as Axis Communications, Wipro Limited, and more, a press release said. By focusing on edge computing, the VMware solutions could make it easier for business users to securely and effectively harness the data created by IoT deployments.

On the VMware side of things, products such as VMware vSAN hyper-converged infrastructure (HCI) software, VMware vSphere, and VMware Pulse IoT Center will all play a role in the new solutions, the release said. At this point, the solutions will address specific needs in industrial and manufacturing sectors, as well as within certain brick-and-mortar retail stores.



"By 2022, as a result of digital business projects, 75% of enterprise-generated data will be created and processed outside the traditional, centralized data center or cloud, which is an increase from less than today's 10%," according to Gartner data cited in the VMware press release. IoT deployments, especially those out in the field, often require the kind of on-site analytics that cannot be performed with a traditional data center that may be miles away. So, business and IT leaders must come up with solutions to address analytics locally, while accounting for security and compliance requirements as well.

All in all, three specific solutions were announced. For starters, VMware is working on a way to bring hyper-converged infrastructure (HCI) to the edge. Using VMware Pulse IoT Center and HCI tools, this solution will offer real-time analytics at the edge from the sensor data collected by IoT devices, the release said. The firm is working with industry partners on providing third-party analytics kits, but didn't mention which companies that entailed. In partnership with Axis Communications and Dell EMC, VMware is working on an IoT-based smart surveillance product. Axis will provide the hardware (IP cameras, routers) and Dell EMC will handle the compute through either Dell EMC servers or Dell Edge Gateways, the release said. The solution will be managed through VMware Pulse IoT Center. "Additionally, VMware is working with financial services organizations to develop the modern bank of the future using surveillance to optimize security and the customer experience," the release said.

In conjunction with Wipro Limited, VMware will also release an asset tracking tool for manufacturers. Wipro's Looking Glass asset management platform will integrate with VMware's IoT Edge solutions to provide asset and data tracking, along with predictive failure analytics. "The benefits of improved efficiency and productivity of machinery and other assets across the shop floor have the potential to contribute significant returns to manufacturers," the release said. VMware also dedicated some \$6 million toward edge computing research alongside the National Science Foundation (NSF) at MWC.





## 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 9001:2015 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."*