

# TechTalk



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## Galaxy & VMware Host Joint Event “The Cloud is No Longer the Limit”



Galaxy has a close working relationship with VMware and we have been promoting their best-of-breed technologies and solutions to enhance customer outcomes. Today we are a **VMware Premier Partner**, with plans in place to take this relationship to the next level in near future.

Galaxy recently organized a joint event with VMware on NSX SD-WAN by VeloCloud. It was conducted on 5th October 2018, at the Grand Hyatt in Mumbai. The event was titled “**The Cloud is No Longer the Limit**”.

The event began with a keynote presentation by Abhishek Sharma from Galaxy, who gave an overview of Galaxy’s Cyber Security portfolio of services and solutions. As enterprises increase their global presence with offices across different locations, they have started adapting mobility and empowering their employees with concepts such as VPN, Cloud and BYOD. Consequently, their IT teams need a fresh approach to architecting and using their networks and infrastructure. Thus, it is now time for organizations to shift towards a cloud-delivered, software-defined model for WAN and branch locations that extends from the data center and the cloud, across the WAN, and to the edge. This was articulated in a session by Anish Gogate [Sr. Partner Manager, VMware] who also presented the NSX vision and strategy along with session on SD-WAN, which was followed by an interactive Q&A session for some deeper insights.

Our customers have always supported us in such endeavors, and this event was no exception. We received an overwhelming response with over 70 guests attending this event.

### IN THIS ISSUE

Future is Now	2
<i>The Future of Wearable Technology in Workplace</i>	
<i>The Future is Here: Three Ways Gene Editing Could Change the World</i>	
Technology Focus	3 & 4
<i>A New CTO Strategy Needed for the Future of Backup</i>	
<i>Why SD-WAN is the Future of Networking?</i>	
Tech News	5
<i>Dell EMC VxRail HCI Builds on VMware Cloud Foundation</i>	
Special Focus	5
<i>IBM’s \$34 Billion Acquisition of Red Hat: Our Take</i>	

## M.D. Speaks



“Dear Readers,

*I am very proud to inform you that earlier this month, Galaxy completed 31 years of customer service, steady growth and continuous evolution. At this milestone, I would personally like to thank all of our employees, customers, suppliers, OEMS, bankers, service providers and all those who have played a part in this journey. When Galaxy was founded, not many companies used computers. Today, almost every individual has a mobile phone with computing power greater than the computers of those days. As a company, we have continuously evolved and adapted and that is why we are one of the very few companies to not only survive those shifts but actually take advantage of them and grow at a good pace. Throughout this journey, our values and guiding principles have remained constant and provided us the strength to reach this far and go even further. The whole team at Galaxy assures all our patrons of the absolute best in quality and customer service in all times to come.*

*I wish all of you a very happy Diwali and a safe and successful year ahead.*

Happy reading.”

*AP Gogate*

# The Future is Now

## The Future of Wearable Technology in the Workplace

The world of work is changing, and working from home has become more popular. The need to communicate effectively has never been more vital. Here's our look into the future of wearable technology in the workplace.

**The smartwatch** is a powerful tool capable of way more than just telling the time. They can also: Monitor your heart rate, Enable contactless payments, Provide GPS location, Make phone calls, Pick up emails and texts.



**Smart clothing** like Butterfly Dress as a proximity sensor that responds to external stimuli, such as other people approaching and recognition of other nearby wearables.

**Smart sneakers** e.g. EasyJet's Sneakair shoes could be the next big thing in navigation, essential for businesses such as Amazon who use warehouses to store and locate hundreds of product lines to guide workers more efficiently to find what they're looking for.

**Virtual reality headsets** - The VR tech that's available to us now is generally accessed through the smartphone in your pocket, adapted to be worn over the eyes. The world of training opens up as soon as you offer interactive, experiential learning made possible by wearables and group meetings in virtual spaces are set to become the norm. In the future, workplaces that embrace VR will be able to accommodate more flexibility for employees - making virtual meeting spaces, customer-facing departments, and client liaison more possible. This will be without the need for costly, physical locations and/or travel expenses.

**Augmented Reality** facilitates integration between the digital world and the real world; overlaying digital, often interactive, imagery and information into real-world settings. AR technology in the workplace has obvious practical uses, especially in the context of warehouse storage facilities and customer service departments.

As wearables become commonplace, the expectation to wear them as part of our job role is sure to follow.

## The Future Is Here: Three Ways Gene Editing Could Change the World

"Clustered Regularly Interspaced Short Palindromic Repeats" or "CRISPR" is a powerful tool that scientists can use to edit DNA and modify gene functions.



Every human cell has six billion letters of DNA code and just one wrong letter can leave someone with a debilitating illness. "Think about one misspelled word in a stack of one thousand bibles due to one wrong letter. That letter can put a boy in a wheelchair," says molecular biologist Eric Olsen.

By mapping the human genome, we now know the DNA errors that are at **the root of nearly 7,000 diseases** — and we can use CRISPR to fix them. The technology acts like a spell-checker, locating a specific DNA sequence, removing and replacing it.

### The Dawn of Designer Babies

CRISPR has the potential to turn human reproduction on its head. Fertility specialist John Zhang is at the cusp of "human engineering" and has successfully used the DNA of three adults to create a three-parent baby. He says, "from this point on we know human reproductive medicine is going to change forever."

### Growing New Human Organs ... In Pigs

Pablo Ross, a biologist from the University of California is conducting some cutting-edge research that he hopes has the potential to save millions of lives. Ross is placing human cells into pig and sheep embryos and hopes to combine the DNA of two species to create an almost endless supply of replacement organs for humans.

### Genetically Engineering Entire Populations

Altering the genetic code of organisms comes with a lot of unknowns, but that hasn't stopped some scientists, like Kevin Esvelt, who leads the 'Sculpting Evolution' lab at MIT, from wanting to try it out on a large scale. He is working on a technique called a "gene drive", a way of editing an animal's genetic code and have changes passed down to their offspring, eventually creating a new genetically modified population. "No one had imagined that we would be able to edit entire wild species. We could get rid of all sorts of other incredible health problems," claims Esvelt. His work has focused on eliminating Lyme disease, a bacterial infection carried by white-footed mice and transferred to humans through tick bites. A small percentage of mice are naturally immune to Lyme disease, and "we can, using CRISPR, insert that [immunity] DNA into the reproductive cells of mice, so their offspring will inherit that immunity," he says. From there, Esvelt plans to release the immune mice back into the wild, where he hopes they will reproduce and pass on their immunity, eliminating Lyme disease in the entire population.

# Technology Focus

## A New CTO Strategy Needed for the Future of Backup

Simply put, a business needs to be able to quickly recover data from the second it went down – not from the backup made the night before.

It seems that backup technology is constantly in flux. We've gone from punch cards to tape, tape to spinning disk, and on to flash. Each new technology along the way has been hailed as a revolution in its own right. However, if anything, these new technologies have been evolutions on the idea of creating 'golden copies' of data for those 'just in case' situations where something might go wrong.

However, traditional periodic backups that only provide a snapshot in time are not compatible with modern enterprises. Digital business is an always-on operation, and now, the requirement is for recovery point objectives (RPOs) of seconds and recovery time objectives (RTOs) of minutes.



Simply put, a business needs to be able to quickly recover data from the second it went down – not from the backup made the night before. Reliance on periodic backups rather than continuous data protection may go a long way to explaining why nearly half of businesses have suffered an unrecoverable data event in the last three years.

### Why Is Backup Now a CTO Concern?

Backup becomes a CTO concern when technology solutions and services that are sold to customers are the ones affected by data loss and disruption. It is hard to overstate the many impacts that disruption and data loss can cause, however two of the most significant ones in the minds of the C-Suite, are direct costs and reputational damage. All of this indicates that, when it comes to customer-facing IT solutions, there's a real need for a new strategy of both backup and general IT resilience. This needs to be designed to minimise downtime, disruption and data loss to keep services online and customers happy.

To contextualise the problem, out of organisations who experienced tech-related disruption in the last two years, 42% had to hire in external consultants to help recover, and 37% could trace a direct loss in revenue to the disruption. No CTO wants to have to explain to customers why their valuable data has been lost or their technology services are down – and even less why a third party might need to come in and fix the problem. These disruptions have also led to two fifths of disrupted organisations reporting a loss of customers (20%) or direct damage to the company reputation (19%), bad for both a CTO and his customers.

In the era of price comparison websites and search engines, it's never been easier for a customer to go elsewhere. In order to represent the business's interests, and safeguard the sales team's customer relationships, CTOs need to ensure that the IT solutions they provide for customers can perform reliably, efficiently, and without losing data due to an ineffective backup strategy.

### Updating The Strategy with Investments in Infrastructure

CTOs need to be building a strategy that accounts for the risk and severity of these kinds of disruptions. Such a strategy needs to go beyond just static backup, and look at how data can be protected and maintained continuously throughout its lifecycle to prevent data loss and disruption. In short, a modern backup strategy does three things:

- It makes backup a key part of the design of new services.
- It protects data up to the latest second across different systems and environments.
- It is easy to restore from in seconds when something, inevitably, does go wrong.

The starting point is to investigate backup tools that work down to the latest second before a disruption, but a full backup and resilience strategy needs to go far beyond just this. The good news is that many CTOs are already working to solve the problem; almost all organisations (94%) plan to spend more on resilience infrastructure in the future. However, while recognition of the investment needed is a positive start, the challenge will be in making sure the investment is made in the right long-term solutions – including the right technology, processes and training to make the resilience strategy effective.

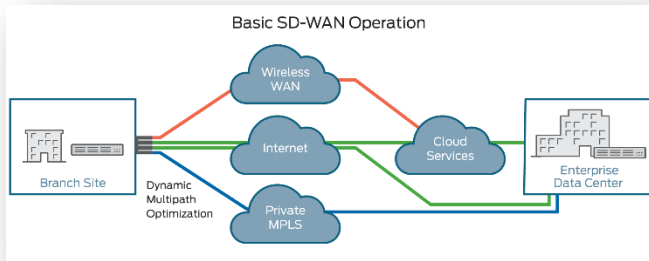
Organisations have ambitious plans to deploy more emerging technology, from a quarter planning to deploy cloud-native apps (25%), to just slightly less investigating machine learning (24%) and AI (23%). Every new initiative will be powered by data, and will need to be made resilient and backed up to run 24/7 and prevent disruptions to service delivery.

This means collaboration between the CIO and the CTO to make sure that both internal and external IT systems are designed in such a way as to combine these elements and deliver an overall more resilient infrastructure. To deliver on customer expectations of reliable services, CTOs need to broaden the remit of their backup strategy to include a broad IT resilience approach that helps progress the business agenda. In achieving this, it is no longer enough to treat backup as a vault of gold copies, occasionally opened should something go wrong. Instead, a modern backup strategy sees backup as a key part of the data infrastructure of new services, kept up to date to the latest second across all sorts of systems and environments, and easy to restore from in seconds when something, inevitably, does go wrong. Only then can organisations win customer trust in reliable service delivery, without the scourge of tech-related disruptions that are an unfortunate reality for many in modern business.

# Technology Focus

## Why SD-WAN is the future of networking

As software, security and data storage all move to the cloud, computer networks are joining the group.



As software, security and data storage all move to the cloud, computer networks are joining the group. "Companies need to network this way," says James Player, commercial product manager at Consolidated Communications, of SD-WAN (software-defined wide area networking). "Going forward, computer networks will migrate the control and data planes to the cloud, enabling software to improve performance and dynamically steer traffic across multiple transport types, allowing for added flexibility."

The reason for the shift, he says, is straightforward. "Everyone wants to virtualize and migrate applications to the cloud. Their applications are moving to the cloud with Office 365, Salesforce, Lync and off-premise storage (such as Dropbox, Google Drive, Box.com, MS OneDrive,

Apple's iCloud, and others). Their storage is moving to the cloud," he says. "The majority of telecommunications products are moving to the cloud. And now networking is moving to the cloud."

### Faster and more flexible

Traditional branch office networking technology hasn't changed much since the 1990s. Those traditional systems are based on rigid architectures optimized around data center applications and aren't well-suited for modern software as service and other cloud computing programs.

"The old style of networking really is antiquated and flawed," Player says. "SD-WAN brings a great improvement to performance and reliability as business services migrate to the cloud." SD-WAN uses software to route traffic across multiple connections including broadband, LTE (for wireless) and MPLS (Multiprotocol Label Switching), finding the optimal connection for moving data seamlessly from one location to another. The technology improves the data transfer process, reducing jitter (fluctuations in the time for an information packet to go from one point on the network to another) and repairs dropped information packets.

In one demonstration, says Player, a file transfer sent through SD-WAN was 10 times faster than one sent using a traditional network. "It's been very impressive to see that," Player says.

With the SD-WAN solution from VeloCloud that Consolidated offers, businesses making the switch can expect more transparency about how the network is actually being used along with increased bandwidth and performance improvements. "This is extremely important to network professionals who want visibility into network analytics," he says.

SD-WAN allows for improved prioritization of traffic on a company's network as well, Player says. "Any time you're pushing multiple applications—voice, video conferencing, and any cloud-based applications, you want to prioritize this traffic," he says. "SD-WAN enables you to create business policies which automatically adjust based on link monitoring and QoS settings."

### Market reaction

Research shows the market is quickly adapting to the kind of improvements SD-WAN represents. Research firm Gartner reports that SD-WAN will account for 19 percent of WAN management by the end of 2019. IDC forecasts the SD-WAN market will be worth \$8 billion by 2021.

"This is an enterprise-class solution that will help everyone from a retail customer or a small to medium-sized business, to our high-end enterprise customers. It's flexible for hybrid networks, it's scalable for growth, and it simplifies complex networks," Player says. Among the large organizations lining up to adopt SD-WAN are banks, governments, schools, non-profits and automobile dealerships. "It's not terribly surprising that companies of all sizes are making the switch to SD-WAN," says Player. "Once customers see and realize what they've been missing out on, their eyes open to a whole new world of networking."

Not only is it more effective than traditional WAN tools, SD-WAN is also a better deal when it comes to cost. Improved visibility allows customers to better manage their networking spending. "It's not free. You're going to get what you pay for. But you're going to get more value," Player says. "Customers immediately see improvements to efficiency, redundancy, analytics and performance. Once they get that visibility, they recognize the cost effectiveness of their technology investment." SD-WAN also saves money on capital expenditures. For instance, money spent on multiple firewalls using older technology can go to one firewall housed in the cloud for an entire network. All told, a company using SD-WAN can save 20 percent on capital expenditures over continuing to repair and replace older infrastructure. "SD-WAN makes networking far more robust," says Player.

# Tech News

## Dell EMC VxRail HCI builds on VMware Cloud Foundation

Dell EMC and VMware, both subsidiaries of Dell Technologies, introduced the fruits of joint engineering projects this week at VMworld 2018 Europe. Dell EMC is tying its converged storage systems more closely around VMware.



Dell EMC and VMware, both subsidiaries of Dell Technologies, introduced the fruits of joint engineering projects this week at VMworld 2018 Europe. The vendors previewed an addition to Dell EMC VxRail hyper-converged infrastructure and enhancements to the Dell EMC VxBlock converged infrastructure.

The VMware Cloud Foundation on VxRail appliances is scheduled for general availability in 2019. Storage enhancements include automated network configuration with Dell EMC SmartFabric Services, which allows VxRail to directly communicate with VMware NSX. For VxBlock 1000 converged systems, Dell EMC added tools to build infrastructure as a service, giving customers the ability to launch vRealize management packs

directly from the VxBlock Central interface. Dell EMC also expanded its open networking with the S5200 family of 25 Gigabit Ethernet (GbE) switches. VMware shops can use the top-of-rack switches to create 100 GbE data fabrics for NSX-virtualized traffic moving across racks.

The companies launched a beta program to extend VMware Cloud on Amazon Web Services to on-premises Dell EMC VxRail environments. Dell EMC VxRail HCI appliances are turnkey, rack-scale systems that package Dell EMC PowerEdge servers and VMware vSAN storage software. VMware Cloud Foundation also includes vSphere, NSX software-defined networking and software-defined data center (SDDC) in an integrated software package.

Dell EMC VxRail 4.7 marks a tighter product cadence with VMware, said Jon Siegal, a Dell EMC vice president of product marketing. "With this version, we will [integrate] the latest vSAN vSphere features in VxRail within 30 days of the latest vSAN vSphere release. Customers will get new functionality more quickly," Siegal said. VMware partners with all large server vendors to sell vSAN as part of hyper-converged infrastructure, and Dell EMC sells other HCI products that don't include vSAN. For instance, the Dell EMC XC Series uses software from VMware's HCI rival, Nutanix. But Dell EMC VxRail is the main HCI focus for Dell and VMware. Converged infrastructure is sold as individual hardware components from validated OEM partners. Dell EMC VxBlock is based on Cisco servers and networking with VMware software, with the flexibility to match Dell EMC PowerMax, Unity, XtremIO and Isilon NAS.

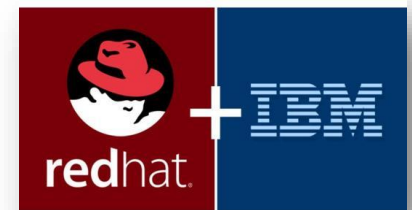
# Special Focus

## IBM's \$34bn Acquisition of Red Hat: Our Take

We take the long view on the tech giant's colossal acquisition of open-source software company Red Hat.

Given its love of technology and innovation, the Leaders League news team was most intrigued by IBM's announcement in late October that it was purchasing open-source software company Red Hat. Having had some time to think about it, we've written a recap that also points to the future.

IBM's move signifies a strong commitment (in the shape of a \$34bn cash purchase) to keeping up at the cloud game, and there's little doubt that this is where the future lies: even in the face of the GDPR, lawyers and industry bods alike are sanguine about the Internet of Things and the deep, broad possibilities of cloud storage. According to research and advisory firm Gartner, the hybrid cloud market will be worth \$240bn by 2019.



Red Hat, with its longstanding commitment to open-source software, is no stranger to IBM: as far back as 1999, IBM, along with Compaq, Dell and Novell, purchased undisclosed minority stakes in the company. Now, IBM is hoping its outright acquisition of Red Hat will give it the tech heft it needs to compete with Google, Amazon and Microsoft in the cloud-service world – companies that remain some way ahead.

This acquisition is certainly huge news for the hybrid cloud world, and therefore big news for business. But it remains a strategic play rather than a move for clear return on investment, and as such only time will tell whether IBM can keep a name for itself as a profitable player in an increasingly competitive hybrid cloud market.





## 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 250 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."*