Integrating Technology, Driving Growth

# TechTalk

GALAXY Integrating Technology | Driving Growth

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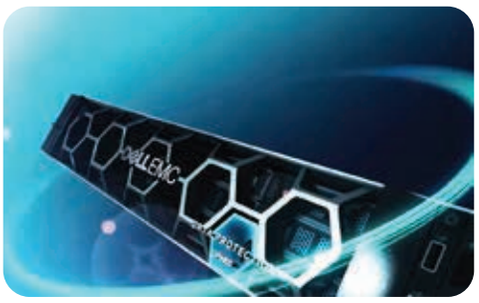
## The perfect mix of power and simplicity - Dell EMC Integrated Data Protection Appliance DP4400

### Now get data protection storage and software, search and analytics in a converged 2U appliance

Get simply powerful data protection for small and mid-size organizations and remote and branch offices of larger enterprises with Integrated Data Protection Appliance (IDPA) DP4400 – a converged appliance that combines backup, replication, deduplication, search, analytics, instant access and restore, as well as DR and long-term retention to the Cloud.

The IDPA DP4400 provides comprehensive data protection that is simple to manage, deploy, and upgrade-all in a compact 2U appliance. Protect the largest application ecosystem, simplify data protection monitoring and management with the IDPA System Manager, and grow-in-place from 8 to 96TB without any additional hardware. It also delivers an industry-leading average data deduplication rate of 55:1, shortens backup windows by up to 2x, provides the industry's lowest cost-to-protect – up to 80% less, and protects up to 4x more data in one 2U appliance.



**Key features:**

- Comprehensive and complete data protection for the largest application ecosystem
- Customer-installable/upgradable 2U appliance; can grow-in-place (8-96TB) with no additional hardware
- High performance: Up to 2x shorter backups, avg. dedupe ratio of 55:1, faster restores, up to 98% less bandwidth
- Expand to the cloud with native cloud DR and long-term retention add-on capabilities
- 3-year satisfaction guarantee and up to 55:1 data protection deduplication guarantee with Future-Proof Loyalty Program (support agreement required)

*The new Integrated Data Protection Appliance (IDPA) now starting at 8TB is a converged solution that offers complete backup, replication, recovery, deduplication, instant access and restore - all in a single appliance.*

***To schedule a LIVE DEMO or to find out more about IDPA DP4400, get in touch with us on 022-46108777 or email us at marketing@goapl.com***


https://bit.ly/2OHRTGO

## MD SPEAKS

**Anoop Pai Dhungat**
Chairman & MD

Dear Readers,

The much awaited rains are finally here in Mumbai! And it seems that because they were delayed, they are in a hurry to make up the lost time. I hope and pray that this will be a good monsoon for the crops and the lakes. Apart from good rains, what the agriculture sector needs is a wave of technology startups that are able to create platforms that can help the farmers with crop selection, seed purchases, schedules for watering, pest control, weeding & fertilization, selling the produce and collecting the money. With the mobile internet having penetrated most of the hinterland, I will not be surprised to see this happening very soon.

We, at Galaxy, continuously strive to give our customers the very best technology infrastructure solutions in order to make their digital journey a smooth ride. We have business units dedicated to solutions for Data Centres, Networking, Mobility, Security, Internet of Things & Robotic Process Automation and Endpoints. Please reach out to us to know how we can help to take you to the next level of your digital transformation.

I was quite surprised at the level of unpreparedness for the rains at the Cricket World Cup venues and can only imagine the reactions of the so-called 'developed countries' had such a thing happened in India. What I'm not surprised with is the Indian Cricket Team storming into the semi-finals. I join a billion people in wishing them further success.

Happy Reading

# Future Is Now

## This AI-Enabled Robotic Arm Can Pack Boxes Quickly, Cut Costs

Researchers have developed an Artificial Intelligence (AI)-enabled robotic arm that provides a more efficient way to pack boxes, saving time and money. Researchers formed a team to deal with multiple aspects of the robot packing problem in an integrated way through hardware, 3D perception and robust motion, according to the study presented at the IEEE International Conference on Robotics and Automation.

The study coincides with the growing trend of deploying robots to perform logistics, retail and warehouse tasks. Automating such tasks is important for companies' competitiveness and allows people to focus on less menial and physically taxing work.

"We can achieve low-cost, automated solutions that are easily deployable. The key is to make minimal but effective hardware choices and focus on robust algorithms and software," said Kostas Bekris, Associate Professor at Rutgers University, US.

The researchers developed software and algorithms for their robotic arm. They used visual data and a simple suction cup which doubles as a finger for pushing objects. The resulting system could topple objects to get a desirable surface for grabbing them. Furthermore, it uses sensor data to pull objects toward a targeted area and push objects together.

A robotic arm was also spotted in a YouTube video in which it is seen tightly packing objects with as much as five times the manual speed.

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## Novel Method to Let Gamers Communicate Using Their Minds

Imagine playing video games together with your friends seated at different places while communicating only with your minds. Researchers from University of Washington including one of Indian-origin have developed a method just to do that, brining telepathic communication a step closer to reality.

In the study, published in the Nature journal Scientific Reports, the researchers showed that three people can play a Tetris-like game using a brain-to-brain interface. This is the first demonstration of two things — a brain-to-brain network of more than two people, and a person being able to both receive and send information to others using only their brain.

As in Tetris, the game shows a block at the top of the screen and a line that needs to be completed at the bottom. Two people, the Senders, can see both the block and the line but can't control the game. The third person, the Receiver, can see only the block but can tell the game whether to rotate the block to successfully complete the line.

Each Sender decides whether the block needs to be rotated and then passes that information from their brain, through the Internet and to the brain of the Receiver. Then the Receiver processes that information and sends a command — to rotate or not rotate the block — to the game directly from their brain, hopefully completing and clearing the line.

The team asked five groups of participants to play 16 rounds of the game. For each group, all three participants were in different rooms and couldn't see, hear or speak to one another. The Senders each could see the game displayed on a computer screen. The screen also showed the word "Yes" on one side and the word "No" on the other side. Beneath the "Yes" option, an LED flashed 17 times per second. Beneath the "No" option, an LED flashed 15 times a second.

The Senders wore electroencephalography caps that picked up electrical activity in their brains. The lights' different flashing patterns trigger unique types of activity in the brain, which the caps can pick up.

So, as the Senders stared at the light for their corresponding selection, the cap picked up those signals, and the computer provided real-time feedback by displaying a cursor on the screen that moved toward their desired choice. The selections were then translated into a "Yes" or "No" answer that could be sent over the Internet to the Receiver.

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## Edge sites to triple by 2025: Report

The migration to the edge is changing the way today's industry leaders think about the data center. They are grappling with a broad data center ecosystem comprised of many types of facilities and relying increasingly on the edge of the network. In this context a new research conducted by Vertiv shows that edge sites are set to grow three times from now in the next 5-6 years.

Five years ago, Vertiv conducted this research titled: Data Center 2025: Exploring the Possibilities, by seeking opinion of over 800 industry professionals and introduced a collaborative vision for the next-generation data center. In its recent update Data Center 2025: Closer to the Edge, it reveals fundamental shifts in the industry that barely registered in the forecasts from five short years ago.

The migration to the edge is changing the way today's industry leaders think about the data center. They are grappling with a broad data center ecosystem comprised of many types of facilities and relying increasingly on the edge of the network. Of participants who have edge sites today or expect to have edge sites in 2025, more than half (53%) expect the number of edge sites they support to grow by at least 100% with 20% expecting a 400% or more increase. Collectively, survey participants expect their total number of edge computing sites will grow 226% between now and 2025.

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## Using artificial intelligence to better predict severe weather

When forecasting weather, meteorologists use a number of models and data sources to track shapes and movements of clouds that could indicate severe storms. However, with increasingly expanding weather data sets and looming deadlines, it is nearly impossible for them to monitor all storm formations — especially smaller-scale ones — in real time.

Now, there is a computer model that can help forecasters recognize potential severe storms more quickly and accurately, thanks to a team of researchers at Penn State, AccuWeather, Inc., and the University of Almería in Spain. They have developed a framework based on machine learning linear classifiers — a kind of artificial intelligence — that detects rotational movements in clouds from satellite images that might have otherwise gone unnoticed. This AI solution ran on the Bridges supercomputer at the Pittsburgh Supercomputing Center.

Steve Wistar, senior forensic meteorologist at AccuWeather, said that having this tool to point his eye toward potentially threatening formations could help him to make a better forecast.

In their study, the researchers worked with Wistar and other AccuWeather meteorologists to analyze more than 50,000 historical U.S. weather satellite images. In them, experts identified and labeled the shape and motion of "comma-shaped" clouds. These cloud patterns are strongly associated with cyclone formations, which can lead to severe weather events including hail, thunderstorms, high winds and blizzards.

Then, using computer vision and machine learning techniques, the researchers taught computers to automatically recognize and detect comma-shaped clouds in satellite images. The computers can then assist experts by pointing out in real time where, in an ocean of data, could they focus their attention in order to detect the onset of severe weather.

The researchers found that their method can effectively detect comma-shaped clouds with 99 percent accuracy, at an average of 40 seconds per prediction. It was also able to predict 64 percent of severe weather events, outperforming other existing severe-weather detection methods.

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# How Indian Enterprises Are Harnessing The Power Of RPA

**In India, organisations have been quick to realise the huge opportunity in RPA by automating repetitive transactional processes**

RPA is today at a stage where the cloud was a decade back. The adoption of RPA is now fast gathering momentum with companies in the BFSI sector leading the charge. Research firm, Gartner predicts that by the end of 2022, 85 per cent of large and very large organisations will have deployed some form of RPA.

In India, organisations have been quick to realise the huge opportunity in RPA by automating repetitive transactional processes. Take the case of a leading private sector bank which uses RPA to do eyeballing credit applications. Similarly, another fast growing bank has used RPA for automation of payment processes where more than five lakh transactions are automated on a monthly basis. At leading private sector General Insurance Company , RPA has been used to automate quote issuance, policy issuance and claims processing. This has resulted in an increase in operational productivity and an improvement in turnaround time for policy issuance.

With automation as the goal, RPA is now being used to solve some unique issues. For example, a leading telecom conglomerate uses RPA to set algorithms that identifies exceptional situations. For instance, in case of a power failure, the firm has created an algorithm which identifies the nearest technician using geo-locations and dispatches the work automatically.

This ensures that the site gets restored in the minimum time possible. At Leading IT Services company, RPA is being used to automate and complete the accounting process across company's all legal entities spanning across countries where the firm has a significant footprint. Automating intercompany transfer, invoicing and collections by deploying a bot to complete all accounting tasks, has helped its finance and accounting team in saving time and effort, and at the same time, record 100 per cent compliance.

At a Pharmaceuticals Company, RPA is being used for the posting of bulk GST invoices. A Credit Card company uses RPA for its transaction dispute follow up process. Besides standardisation of the process and elimination of human dependencies and errors, RPA has been able to save close to 700 hours of efforts per day across processes. An Online Pharma firm uses RPA for onboarding of suppliers and interacting with their systems.

As user confidence in RPA systems has grown, firms have scaled up the deployment of RPA to multiple processes. India's first private sector bank which started from deploying RPA for 200 business processes in 2016, is now running 1350 business processes on RPA, which is currently being used in processes such as customer on-boarding, transaction processing, post transaction servicing, reconciliation, and loan processing. Similarly, a leading Life Insurance which started out with 8 bots in 2016 is now using running 154 bots across 24 functions. From simple tasks, bots have now progressed to handle complex queries.Today 40 per cent of the bots handle their complex tasks.

In the future, one can expect more use cases of RPA combined with AI and analytics. As business confidence grows, we can see business processes being re-imagined and re-engineered to create a significant shift and improvement in customer experience and business outcomes.

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# Tech News

## LG and SK Telecom to co-develop 5G robots

LG Electronics and SK Telecom have partnered up to create robots that use 5G wireless networks, the companies announced.

As part of the partnership, the South Korean companies will develop autonomous robots that use a 5G Mobile Edge Computing-based cloud platform.

The plan is to design a robot that can draw maps, perform security tasks, and provide guidance, the companies said.

The robots will also be able to move autonomously, all the while having the capacity to film high resolution videos and send the reels to data centers due to its use of 5G's high data transfer speed and low latency.

The two companies also announced plans to launch a service where robots can patrol places, such as a parking lot at night, to film and detect intruders.

LG previously deployed its


cleaning and guide robots at Incheon International Airport in 2017. The electronics maker is also currently working alongside CJ Foodville to deploy robots for restaurants.

Last year, the South Korean electronics maker formed a new robotics division, in addition to an autonomous vehicles division that is currently under the direct supervision of the CEO.

South Korea commercialised its 5G networks in April and local telcos are aiming to provide 5G coverage to over 90% of the country by the end of the year.

https://zd.net/2LnOUnX

## India Likely To Increase IT Resources In Russia

India's prowess in Information Technology (IT) sector could be utilised in an increased measure in Russia to strengthen the bilateral strategic partnership further. Specific areas are being explored in which India's expertise in IT could be utilised in Russia, with potential being seen in oil and natural gas and education sectors of that country.

A major push in collaboration in IT and other areas is expected when Prime Minister Narendra Modi travels to Vladivostok in September to be the Chief Guest at the Eastern Economic Forum at the invitation of Russian President Vladimir Putin.

An Indian delegation, comprising representatives from the industry, academia, start-ups and ICT, recently undertook a visit to Khanty-Mansiysk in Russia to explore ways in which the collaboration could be effected through the use of IT.

The aim of the visit by the delegation was to promote unique strengths in emerging technologies like Artificial Intelligence, Internet of Things (IoT), blockchain and big data analytics, and encourage collaboration with the Indian IT industry in the areas of IoT ecosystem, industry 4.0 and smart cities, said the business chamber FICCI, which organized the trip.

The delegation participated in a seminar and held an exhibition, showcasing India"s strength in information technology, start-ups and electronics industry. As a follow-up, some focus groups will be set up for effective action, according to a source.

The potential areas where Indian companies can use their IT applications in Russia are oil and natural gas sector. The two countries have set an ambitious bilateral trade target of 30 billion dollars to be achieved by 2025, with special focus on collaboration in high tech sector and emerging technologies. The bilateral trade last year was 9 billion dollars.

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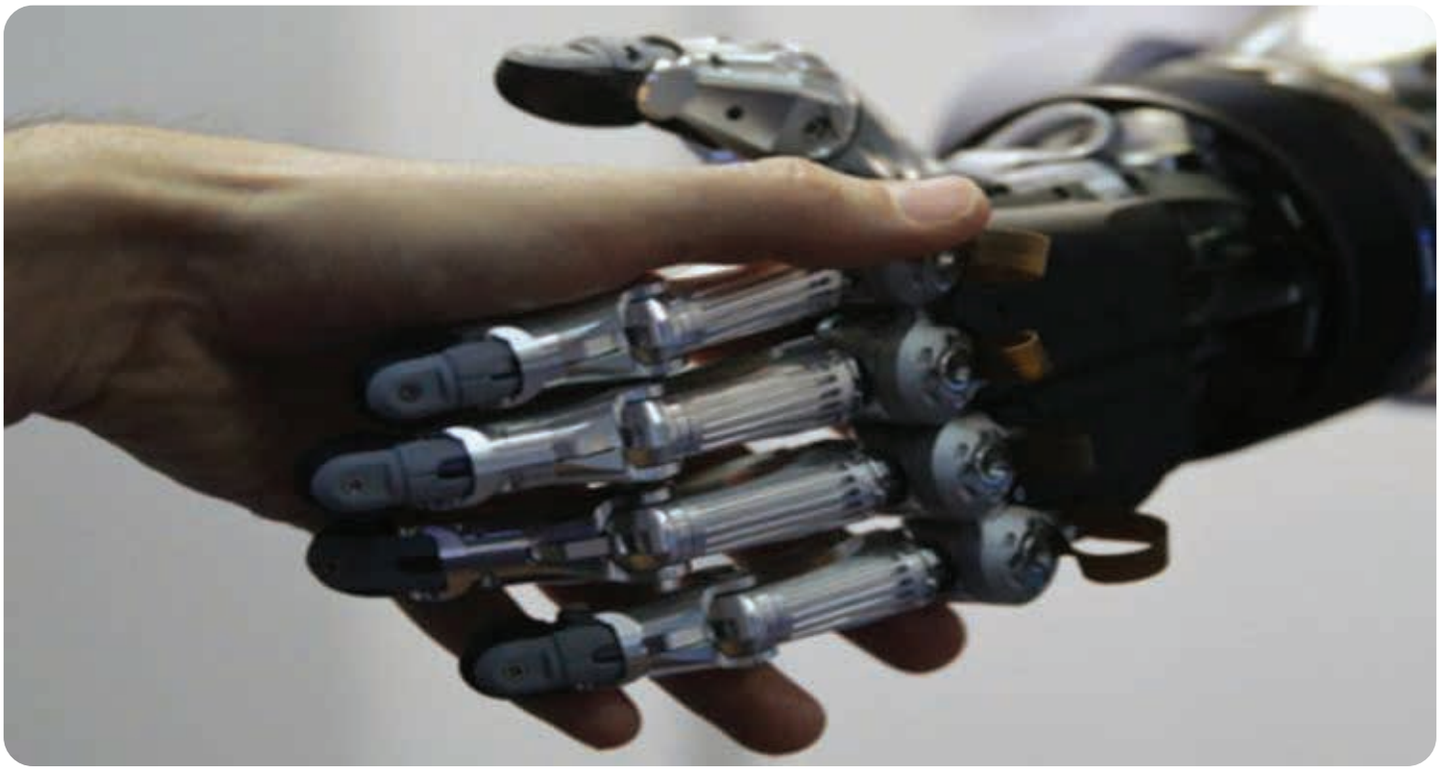

## 3D sewing robotic arm developed in China

Traditional ways of sewing that rely on human hands or sewing machines may undergo a drastic change, as researchers in eastern China's Zhejiang province have created a 3D sewing robotic arm. The robotic arm can quickly scan pieces of cloth with a laser scanner, sew them together based on programmed patterns and cut threads. The whole process only takes a few minutes, reported Xinhua news agency.

Jointly developed by Ningbo Cixing Company and a research institute of the China Shipbuilding Industry Corporation, the 3D robotic arms are currently applied to the sewing of automotive interiors.

According to Fu Lei, general manager of Cixing Robotics, automobile manufacturing is a highly automatic industry, but this is not the case in making automotive interiors, which relies on human workers. The 3D robotic arm could increase production efficiency without lowering the product quality. The 3D sewing robotic arms, installed with different heads, could be used in many more fields, including aerospace.

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