Integrating Technology, Driving Growth

TechTalk

GALAXY
Integrating Technology | Driving Growth

GALAXY OFFICE AUTOMATION PVT. LTD.

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## Canalys recognizes Galaxy 'Partner of The Year - Diversity & Inclusion'

Galaxy tends to look beyond the gender, regional and cultural affinities and has adopted the policy of selecting candidates on the basis of talent, skill and merits. Feels great to be recognized and win the 'Partner Of The Year - Diversity & Inclusion' at Canalys Forum, 2019 in Taipei.

We express deepest gratitude to Redington India Ltd for supporting us and a big Thank you to the Canalys Forum for the recognition.

## MD SPEAKS

**Anoop Pai Dhungat**
Chairman & MD

Dear Readers,

On behalf of all at Galaxy, I wish all of you a very happy, safe and successful 2020. On this occasion, I would like to pen down a few of my thoughts about the technologies that I expect to penetrate and influence the market in 2020.

5G wireless networks will begin to take root and should work as an enabler for smart cities and wearable devices. For example, augmented reality eyewear, which places digital content in the context of the real world, will use fast 5G connections to the cloud to identify people and things for us.

AI will be used in a lot of healthcare applications to ease to load on specialist doctors. Coupled with fast 5G networks, the specialists can be remotely consulted for a diagnosis or second opinion. This should eventually lead to lower cost and the so-called “democratisation” of healthcare.

On the flip side, I see AI being used to “create” audio and video content for maligning political or business opponents. Such deep fakes will soon be so realistic that it will be practically impossible to make out the difference. Till the time that AI is used to identify and counter the deep fakes, the general public and judicial systems will have to be wary of any audio or video evidence.

India has seen major shutdowns and disruptions of the internet, ostensibly for maintaining law and order by preventing the spreading of rumours and mobilisation of terror resources. This is causing a real setback for “Digital India”. A not-so-complicated technological solution to allow essential services and disallow social media could be implemented in such situations.

I would also like to thank all our stakeholders for their continued trust placed in our skills and abilities, thus enabling us to keep our position as one of Asia-Pacific’s fastest growing system integrators.

Happy Reading

APDhungat

# Artificial intelligence could help to spot breast cancer

A computer algorithm has been shown to be as effective as human radiologists in spotting breast cancer from x-ray images.

The international team behind the study, which includes researchers from Google Health, DeepMind, Imperial College London, the NHS and Northwestern University in the US, designed and trained an artificial intelligence (AI) model on mammography images from almost 29,000 women.

The findings, published in Nature, show the AI was able to correctly identify cancers from the images with a similar degree of accuracy to expert radiologists, and holds the potential to assist clinical staff in practice.

When tested on a large UK dataset as part of the Cancer Research UK-funded OPTIMAM project* and a smaller US dataset from Northwestern University**, the AI also reduced the proportion of screening errors – where cancer was either incorrectly identified or where it may have been missed.

**Screening programmes remain one of the best tools at our disposal for catching cancer early and improving outcomes for patients, but many challenges remain – not least the current volume of images radiologists must review. Lord Ara Darzi Imperial College London**

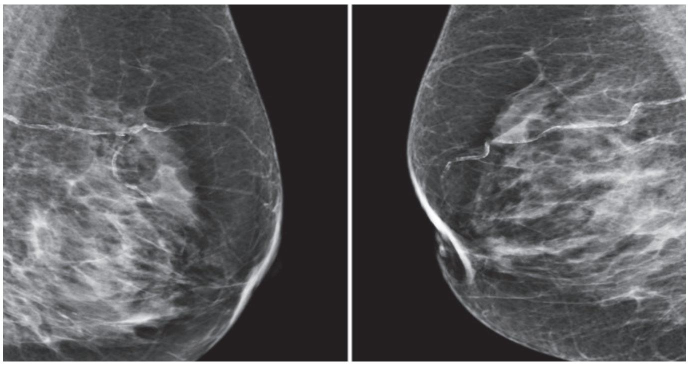
According to the researchers, the work demonstrates how the AI could potentially be applied in clinical settings around the world.

The team highlights that such AI tools could support clinical decision-making in the future as well as alleviate the pressure on healthcare systems internationally by supporting the workload of

## REDUCING FALSE FINDINGS

In the UK, it's estimated that one in eight women will be diagnosed with breast cancer in their lifetime, with the risk increasing with age. Early detection and treatment provide the best outcome for women, but accurately detecting and diagnosing breast cancer remains a significant challenge.

Women aged between 50 and 71 are invited to receive a mammogram on the NHS every three years, where an x-ray of the breast tissue is used to look for abnormal growths or changes which may be cancerous. While screening is highly effective and the majority of cancers are picked up during the process, even with significant clinical expertise human interpretation of the x-rays is open to errors. ***



**The findings showed the AI was able to correctly identify cancers from images with a similar degree of accuracy to expert radiologists, and has the potential to support decision making and workload of clinical staff. (Images: The CRUK-funded OPTIMAM database)**

In the latest study, researchers at Google Health trained an AI model on depersonalised patient data – using mammograms from women in the UK and US where any information that could be used to identify them was removed.

The AI model reviewed tens of thousands of images, which had been previously interpreted by expert radiologists. But while the human experts had access to the patient's history when interpreting scans, the AI had only the most recent mammogram to go on.

During the evaluation, the researchers found their AI model could predict breast cancer from scans with a similar level of accuracy overall to expert radiographers (or were shown to be 'non-inferior'). Compared to human interpretation, the AI showed an absolute reduction in the proportion of cases where cancer was incorrectly identified (5.7%/1.2% in the UK and US data respectively), as well as cases where cancer was missed (9.4%/2.7% in UK/US data).

## INCREASING EFFICIENCY

Beyond the AI model's potential to support and improve clinical decision-making, the researchers also looked to see if their model could improve reader efficiency. While the AI did not surpass the double-reader benchmark, statistically it performed no worse than the second reader.

In a small secondary analysis, they simulated the AI's role in the double-reading process – used by the NHS. In this process, scans are interpreted by two separate radiologists, each of whom would review the scan and recommend a follow up or no action. Any positive finding is referred for biopsy and in cases where the two readers disagree, the case goes to a third clinical reviewer for decision.

The simulation compared the AI's decision with that of the first reader. Scans were only sent to a second reviewer if there was a disagreement between the first reader and the AI. The findings showed that using the AI in this way could reduce the workload of the second reviewer by as much as 88%, which could ultimately help to triage patients in a shorter timeframe.

According to the team, the findings are exciting and show how AI could assist healthcare screening services around the world. One such practical application could include providing automatic real-time feedback on mammography images, awarding a statistical score which could be used to triage suspected cases more quickly.

However, the researchers add that further testing in larger populations is required.

https://bit.ly/2QskV07

Technology Focus

# Envisioning Cyber Security Future 2020

In today's connected world, everyone relies on technology more than ever before. Cybercriminals have expanded their pace by entering into a computer every 40 seconds on average. And so cybersecurity has become the foremost priority of every organization as they are often the target of such attacks. Cybersecurity is the practice of defending internet-connected systems, networks, devices including hardware, software and data from attack, damage or unauthorized access. CyberSecurity is the new buzz in organizations and businesses whether large or small. Every business has different perspectives & priorities, and as cyber-attacks continue to get bigger every year it becomes important for every business to stay on top of the current trends in the cybersecurity news cycle. As breaches are not easily detected, protecting organizations from cyber threats will become difficult. Following are some of the cybersecurity trends that will be seen in 2020:

**Cyber Security budget will persistently increase:** Cyber Security is the top priority of every organization professional's mind. Companies' annual investment in privacy and security has gone up and is estimated to increase further. Per employee, companies are spending an average of around $2,300 for cybersecurity. However, depending on the known and unknown threats, businesses progressively add resources into security solutions resulting in an increase in spending. Cyber budgets in 2019 have increased by 59%, which is around $124 billion. It is predicted to reach $128 billion by 2020. The biggest individual market with the largest spending is anticipated to be the US.

**Attackers and Defenders will cash in on Artificial Intelligence:** Artificial Intelligence(AI) and Machine Learning(ML) are taking the spotlight to identify and counter back to threats that crop up. AI-based solutions are implemented to work around the clock and have the potential to respond within milliseconds to attacks as compared to when identified manually. The brilliant side of the story is defenders can use AI to build strong security frameworks to automatically detect a threat and nullify threats before they harm the organization's security. Simulated attacks can be performed on a network to block system weaknesses before malicious attacks. But AI isn't perfect and has a flip side too. AI-based solutions can be used by cybercriminals to probe networks. Once an AI system is assaulted, cybercriminals can use AI to intensify their offensive activity. AI could also be used for phishing and launch other attacks via AI botnets designing realistic emails to dope individuals, hence making it difficult to identify major attacks. Over time, organizations will have to mop up the cybersecurity challenges that AI holds in the future.

**5g Security Predictions:** 5g connectivity comes with the use of a large number of IoT devices and BYOD (Bring your own devices). The network will move to distributed routing instead of centralized routing. This means it will become hard to screen all IoT devices, connecting to the 5g network and moving away from the central router makes them the prime targets for cyber-attacks. 5g experts predict that more than 36 billion devices will be connected to the internet by the end of 2020. The ever-growing volume of personal data needs to protect against exploitation as 5g will collect small details about users mobiles, cars and other sensitive data that will give cybercriminals more opportunities for exploitation and attacks. The dramatic expansion of 5g creates a multidimensional cyberattack vulnerability. In the increase of emerging threats, redefined security solutions or framework is the need of an hour.

GALAXY
Envisioning
Cyber Security
Future 2020
A huge amount of private data stored over the internet calls for robust security measures and practices affecting the organization's massive security operation in 2020.

**Expertise Adversity:** The shortage of Cybersecurity professionals will continue to increase. The Cybersecurity training needs to be advanced as certifications alone won't help. It has been a recurring issue for the last couple of years. The number of cybersecurity openings is flowing all over the place rapidly, but the supply can't keep up the demands. This gap is expected to be widened by 2020. Cybersecurity Ventures recently estimated that the global shortage of cybersecurity will reach 3.5 million unfilled positions by 2021.

**Cybersecurity's future is in the clouds:** Utilization of cloud has become inescapable, users store photos and memories, email accounts, business files, and other important personal data. With on-premise data spread across on public and private clouds, organizations do not have centralized control leaving several security gaps. To bridge these gaps organizations are constantly working on implementing hybrid environment solutions for cloud deployments for both public and private clouds.

**Data Isolation and Guidelines will intensify:** Organizations need to restructure their data privacy rules and regulations as the previous year it was predicted by the European Union(EU) will penalize violation of General Data Protection Regulations(GDPR). EU created GDPR for security protection of data for companies doing business with European customers. High-profile data breach attacks made consumers more and more demanding for better privacy rules. Government all around the world is so involved in the global cybersecurity crisis that they keep updating new data storage regulations. A huge amount of private data stored over the internet calls for robust security measures and practices affecting the organization's massive security operation in 2020. The Indian government will reveal the official cybersecurity policy by January 2020.

The number of data breaches & attacks is increasing by the day. Cybercriminals are also getting advanced by using the double-sided sword of AI to break into organization cybersecurity. It becomes important to keep updated with the latest technologies. Merging the latest and existing technologies will help protect businesses of all sizes against upcoming threats.

So what do you think, is your organization Cyber Aware?

Attacks can come from any loose end, so Beware of the Trap.

*For a free consultation, please contact us on 022-46108777 or email us at marketing@goapl.com*

https://bit.ly/2SYVLI6

# Hyper-converged Infrastructure (HCI)

Are you looking for intelligent, automated and simplified management of data?

Know how you can achieve that by **Hyper-converged Infrastructure.**

### What does **Hyper-converged Infrastructure** mean?

Hyper-converged infrastructure is a prototype shift that tightly integrates storage, computes, networking and virtualization resources in a single system. Thus, reducing infrastructure complexity and enhancing scalability without compromising on performance. Hyper-converged infrastructure can also be termed as **Hyper-convergence.**

There are many benefits of this tightly integrated node infrastructure, but the primary reasons for organizations switching from complex infrastructure to the simplicity of hyper-convergence are lower costs, consistent performance, and flexibility. Things that Hyper-convergence can do:

### Cost-Efficient

Data scaling is the biggest challenge that organizations are facing today. Hyper-convergence is modelled to avoid frequent purchases of infrastructure every few years. Low costs hardware is used to scale the data center that can be easily managed. Expanding HCI is as simple as just adding the IT resource. Integrating components reduces storage use, power use and lowers management costs. HCI data center costs become less as there is lesser equipment to purchase and manage. Companies can start small and grow resources as needed.

### Staff Efficient

As everything gets folded into a hyper-converged environment, recruitment needs of the organization change. Instead of having specialist staff for each resource area, infrastructure specialist can be recruited.

### Data-Efficient

Because all the components are working together, the management of tools can be achieved from one console. There's constant pressure on the IT department and data centers to deliver predictable results. When multiple applications share the same infrastructure, it's possible that the performance of one application can hinder the performance of others. HCI's performance settings eliminate resource contention and variable application performance. It also improves data efficiency by deduplicating data which leads to an increase in storage capacity and network bandwidth.

### Data Protection

In a traditional data center, data protection is both complex and expensive. It is required to purchase expensive hardware to protect data. However Hyper-converged environment comes with built-in functionalities like data backup, recovery, and disaster recovery. After all hyper-convergence is all about simplifying infrastructure.

### Performance Efficient

Hyper-convergence allows organizations to deploy workloads and many kinds of applications to enjoy high performance. HCI uses fast CPUs and SSDs storage devices. The environment handles all CPU and memory capacity so that instead of focusing on individual resource needs administrators can focus on applications.

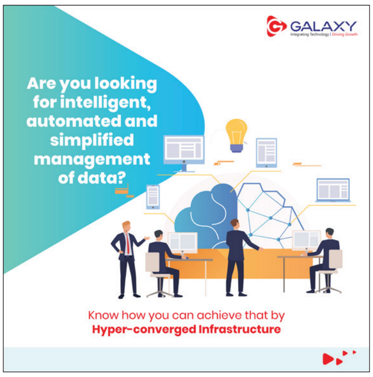
### Multi-cloud Support Efficient

Hyper-convergence simplifies a hybrid cloud environment and lessens transitioning time and cost. Data & Applications can be moved easily between servers and the public cloud.

### Data grows by 40% every year, in 2019 it has reached 28,000 exabytes.

With data growing at that speed, organizations need additional challenges to keep up with the infrastructure updates. With the Hybrid cloud being used endlessly,3-tier infrastructure cannot fulfil all the IT needs. Hyper-converged infrastructure is designed to deliver simplicity, higher automation, and scalability than converged infrastructure. Investments in the Hyper-converged environment has increased in recent years. Hyper-convergence is a good choice for those organizations that uses virtualization largely and having difficulty to cope up with the cost that is required for data storage and protection. With the technology in the right place, organizations will no longer need to rely on different computer or storage systems. They can rather invest their time and human resources on operational aspects than on maintaining infrastructure.

Hyper-converged infrastructure is a bundled software model with potentials like data compression, data protection, data optimization, data deduplication, backup, and recovery. It is an integrated hardware and software package implemented and sold by a single vendor. Thus it requires less installation and configuration.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Are you looking for intelligent, automated and simplified management of data?
Know how you can achieve that by
Hyper-converged Infrastructure

As per Gartner, 20% of organizations that are currently using 3-tier infrastructure will transit to hyper-converged infrastructure by 2020.

Hyper-converged infrastructure is the future. It centralized all the hardware needs in a single console. It is flexible and uses a pay-as-you-grow model when organizations need to expand.

Given the above-mentioned benefits of hyper-convergence, are you ready for this evolution? Have you already moved to the hyper-converged data centers, share your thoughts on this IT infrastructure solution!

*For a free consultation, please contact us on 022-46108777 or email us at marketing@goapl.com*

https://bit.ly/2ufD7RV

# Tech News

## Dell Latitude 9510 With 10th Generation Intel Core Processors, 5G Support Launched

**Dell Latitude 9510 is claimed to be the world's smallest and lightest commercial 15-inch PC. It will be offered in both laptop and 2-in-1 form factors.**

Dell on Thursday announced the expansion of its Latitude 9000 laptop series with the launch of Latitude 9510. The new offering is touted to deliver the longest battery life of any 15-inch business PC with a target of up to 15 hours. It comes in both laptop and 2-in-1 form factors. Alongside the Dell Latitude 9510, the company has also launched the Dell Cinema Guide as its one-stop shop to let users search for TV shows and movies across more than 200 streaming services. The Dell Mobile Connect app that debuted on Android in 2018 is set to enable iPhone users to easily mirror their mobile apps and wirelessly transfer content. Additionally, Dell has brought its new desktop monitors, namely the 86 4K Interactive Touch Monitor, UltraSharp 43 4K USB-C Monitor, UltraSharp 27 4K USB-C Monitor, and the Alienware 25 Gaming Monitor. All these new devices and services will be showcased at CES 2020 in Las Vegas starting next week.

### Dell Latitude 9510 specifications, price

Starting with the new computing device that comes in both 2-in-1 convertible and laptop form factors, the **Dell Latitude** 9510 is claimed to be the world's smallest and lightest commercial 15-inch PC -- with a weight of 3.2 pounds (roughly 1.45Kg). There is a 15-inch InfinityEdge display that is available on a chassis that is touted to be of a 14-inch notebook size. The 2-in-1 variant of the device also has touchscreen support. Under the hood, the Latitude 9510 has up to 10th generation Intel Core i7 processors along with vPro. There is also Intel Wi-Fi 6 (Gig+) connectivity along with 5G mobile broadband support.

The Dell Latitude 9510 has incorporated 5G antennas into the top-firing speakers to retain the thin-edge design of the InfinityEdge display. Further, the device has carbon blade fans and dual heat pipes for thermal management. There are also multimedia-supporting components such as an amp and four noise-cancelling microphones. Dell has additionally provided its Intelligent Audio technology to deliver an enhanced experience during conference calls.

There is a PC proximity sensor enabled by Intel Context Sensing Technology and Windows Hello that provides a faster log-in experience. Also, the device has an Intel Adaptix Technology that uses user preferences and machine learning to enable faster switching between apps and provide an improved app performance. Dell has also offered an ExpressCharge Boost technology that provides up to 35 percent of charge in 20 minutes. Moreover, the notebook has a machined-aluminium finish with diamond cut edges.

The Dell Latitude 9510 will go on sale globally starting March 26 with an starting price tag of $1,799 (roughly Rs. 1,29,000).

https://bit.ly/2N1SSCB

## Cybercrime: Online payment systems to be prime targets in 2020

More cybercriminal groups will target online payment processing systems in 2020, researchers from global cybersecurity and anti-virus brand Kaspersky has warned. Over the past couple of years, so-called JS-skimming (the method of stealing of payment card data from online stores), has gained immense popularity among attackers. Kaspersky researchers in their latest report said they are currently aware of at least 10 different actors involved in these type of attacks.

Their number will continue to grow during the next year, the report said, adding that the most dangerous attacks will be on companies that provide services such as e-commerce as-a-service, which will lead to the compromise of thousands of companies.

"This year has been one of many important developments. Just as we predicted at the end of 2018, it has seen the emergence of new cybercriminal groups, like CopyPaste, a new geography of attacks by Silence group, cybercriminals shifting their focus onto data that helps to bypass antifraud systems in their attacks," Yuriy Namestnikov, Security Researcher at Kaspersky, said in a statement.

"Behavioural and biometrics data is on sale on the underground market. Additionally, we expected JS-skimmer base attacks to increase and they did. With 2020 on the horizon, we recommend security teams in potentially affected areas of the finance industry to gear up for new challenges," Namestnikov said.

In addition, cybercriminals will also target mobile investments apps which have become more popular among users around the globe, according to the predictions from Kaspersky on the expected development of the threat landscape in the financial sector.

Not all of these apps utilize best security practices, like multi-factor authentication or protection of the app connection, which may give cybercriminals a potential way to target users of such applications

Kaspersky research and monitoring of underground forums suggests that the source code of some popular mobile banking Trojans was actually leaked into the public domain.

Previous similar cases of malware source code leakage (like Zeus, SpyEye) resulted in an increased number of new variations of these Trojans. In 2020, this pattern may repeat, the researchers warned. They said that they expect an increase in the activity of groups specialised in criminal-to-criminal sale of network access to banks in the African and Asian regions, as well as in Eastern Europe.

Their prime targets are small banks, as well as financial organizations recently bought by big players who are rebuilding their cybersecurity system in accordance with the standards of their parent companies.

Besides, it is expected that the same banks may become victims of targeted ransomware attacks, as banks are among those organisations that are more likely to pay a ransom than accept the loss of data.

https://bit.ly/2sHxOKV

## 5G will drive Edge Computing, IoT in India in 2020

With more and more Indian enterprises striving to go digital, the increased speed and bandwidth of 5G networks will drive a new round of transformation across India from next year, according to industry leaders. There will be a shift of computing to the edge, as India's businesses take advantage of the benefits of cloud and hyper-converged infrastructure to deal with increasing data gravity.

"With legacy three-tier architectures already struggling to cope with high volumes of data generated by today's enterprises, 5G will be the catalyst that drives edge computing and IoT. As increased speed and bandwidth reduce the gap between wifi and cellular devices — edge computing will come into a realm of its own," Balakrishnan Anantharaman, VP and MD-Sales, India and SAARC, Nutanix, told IANS.

The Indian IoT market is expected to touch $9 billion by 2020 across sectors such as telecom, health, vehicles and homes, among others. It is emerging as the next big thing to become a $300 billion global industry by 2020 and India is all set to capture at least 20 per cent market share in the next five years, according to a Nasscom report.

Sai Pratyush, Additional Vice President, Product Marketing-ICS, Tata Teleservices (TTSL) said that in the enterprise segment, they are witnessing significant growth in the adoption of new-age technologies such as IoT, AI and Cloud across industries.

"IoT especially is viewed as a key enabler driving digital transformation to unlock operational efficiencies. AI, coupled with ubiquitous connectivity, is enabling exponential value being generated by IoT. AI is seeing large scale adoption by enterprises owing to its power to aid automation, speed and better decision making," Pratyush elaborated.

The 'Edge' continues to evolve – with many working hard to define exactly what it is and where it exists. As the advent of 5G makes AI-driven IoT a reality, edge computing environments are primed to become even more disruptive than cloud was.

"The advent of 5G is what AI-driven IoT has been waiting for. 2020 will see many players in the technology industry and business community invest in building edge-computing environments to support the reality of AI-driven IoT," said Atish Gude, NetApp's Chief Strategy Officer.

The "Edge" continues to evolve — with many working hard to define exactly what it is and where it exists.

"Once limited to IoT, it's hard to find any systems, applications, services — people and places — that aren't connected. The edge is emerging in many places and it's going to expand with enterprise organisations leading the way, delivering the IT infrastructure to support it," stressed Alok Ohrie, President and Managing Director, Dell Technologies, India.

https://bit.ly/300vZVp