

TechTalk

Galaxy and Dell Technologies participated as Gold sponsor at the most awaited **#VMwareExplore India 2023 event.**

We are glad to have had the opportunity to interact with peers and industry experts.

With highly informative sessions, learnings and engaging activities the event delivered insights on latest developments in the world of virtualization and cloud computing.



MD SPEAKS

Anoop Pai Dhungat
Chairman & Managing Director

Dear Readers,

Just last month I had written that I expected the technology landscape to be dominated by Artificial Intelligence. I really did not expect it to be so dominant that multiple governments in the “first world” are considering an outright ban on the most prominent AI name - ChatGPT. This is mainly due to privacy and data security concerns that were raised following the inadvertent exposure of users' payment data and chat history. As we all know, any AI engine learns from the data provided to it. Evidently, in this case the data provided to the AI engine was the violation - not the AI engine itself. If the private and personal data is protected in the first place from AI as it is from any human, these concerns will be automatically addressed. Is there something more than “privacy and data security” on the governments minds when they look to ban or curtail the use of AI?

At Galaxy, we had a very good 22-23 fiscal despite some major challenges in the supply chain due to shortages. Hopefully, these will be addressed in the coming year and we will be back to quicker delivery times. We are continuously in the process of upgrading our portfolio and adding new skills. Do reach out to us for a conversation on how to improve the cost efficiencies of your technology spends or how to make you compliant and secure and many more areas of improvement.

Happy Reading

APDhungat



Future Is Now

A machine that reads your mind & translates how you see the world

A machine that reads your thoughts is now more science than science fiction, thanks to neurotechnologists at the University of Texas at Austin (UT Austin). And for the first time ever, this machine doesn't require its subject to be wired up with implants and electrodes. Instead, this decoder is non-invasive, using functional magnetic resonance imaging (fMRI) to measure the changes in blood flow around your brain to translate ideas into words.

"We are decoding something that is deeper than language," Dr Alexander Huth from UT Austin told BBC Science Focus and other press. The decoder can grasp the intangible – the various shapes our thoughts take – and turn them into something understandable and, crucially, communicable. This means that the person who is having their mind 'read' does not have to verbalise their thoughts. For those who have lost the ability to speak – following a stroke, for example – the decoder could restore communication channels non-invasively.

"Speech impairments can be highly debilitating," co-author Jerry Tang, graduate student at UT Austin, said. "Providing some sort of additional communication channel could be really valuable." Until now, non-invasive speech decoders have only been able to reconstruct single words or short phrases. This paper, published in Nature Neuroscience, reveals a machine which can decode continuous, natural language. The machine works by combining well-established decoding methods

with modern machine learning techniques. Essentially, it works similarly to ChatGPT, predicting the ends of sentences based on what has been learnt before.

Akin to an AI chatbot, the decoder needs to be trained on a lot of data – in this case, MRI scans that measure blood flow in the brain. To amass enough neural data, each study participant listened to 16 hours of podcasts including The Moth Radio Hour and The New York Times's Modern Love. Huth said: "What we were going for was mostly what is interesting and fun for the subjects to listen to, because that's critical in actually getting good fMRI data – rather than boring subjects out of their skulls."

Participants also watched silent clips of films – mostly those short stories played at the beginning of Pixar films that do not contain dialogue. Interestingly, this part of the experiment showed that the decoder translates something beyond language: ideas. Blood flow changes slowly in the brain, over the course of a few seconds rather than the nanoseconds of a neuron impulse.

This means that the decoder doesn't translate the exact words we are reading, but how we interpret them. As Huth explains, how we make sense of something slowly changes – "so we can see how the idea evolves, even though the exact words get lost."

While MRI machines are not portable, in the future the researchers hope to test their methods using affordable and portable devices including functional near-infrared spectroscopy (fNIRS) which similarly uses non-invasive techniques to measure blood oxygenation in the brain.



<http://surl.li/gwomk>

What is data visualization?

Data visualization is a critical step in the data science process, helping teams and individuals convey data more effectively to colleagues and decision makers. Teams that manage reporting systems typically leverage defined template views to monitor performance.

However, data visualization isn't limited to performance dashboards. For example, while text mining an analyst may use a word cloud to capture key concepts, trends, and hidden relationships within this unstructured data. Alternatively, they may utilize a graph structure to illustrate relationships between entities in a knowledge graph. There are a number of ways to represent different types of data, and it's important to remember that it is a skillset that should extend beyond your core analytics team.

Types of data visualizations

The earliest form of data visualization can be traced back the Egyptians in the pre-17th century, largely used to assist in navigation. As time progressed, people leveraged data visualizations for broader applications, such as in economic, social, health disciplines. In 1982, Edward Tufte published *The Visual Display of Quantitative*, which illustrated that individuals could utilize data visualization to present data in a more effective manner. His book continues to stand the test of time, especially as companies turn to dashboards to report their performance metrics in real-time.

Dashboards are effective data visualization tools for tracking and visualizing data from multiple data sources, providing visibility into the effects of specific behaviours by a team or an adjacent one on performance.

Dashboards include common visualization techniques, such as:

Tables: This consists of rows and columns used to compare variables. Tables can show a great deal of information in a structured way, but they can also overwhelm users that are simply looking for high-level trends.

Pie charts and stacked bar charts: These graphs are divided into sections that represent parts of a whole. They provide a simple way to organize data and compare the size of each component to one other.

Line charts and area charts: These visuals show change in one or more quantities by plotting a series of data points over time and are frequently used within predictive analytics. Line graphs utilize lines to demonstrate these changes while area charts connect data points with line segments, stacking variables on top of one another and using colour to distinguish between variables.

Histograms: This graph plots a distribution of numbers using a bar chart (with no spaces between the bars), representing the quantity of data that falls within a particular range. This visual makes it easy for an end user to identify outliers within a given dataset.

Scatter plots: These visuals are beneficial in revealing the relationship between two variables, and they are commonly used within regression data analysis. However, these can sometimes be confused with bubble charts, which are used to visualize three variables via the x-axis, the y-axis, and the size of the bubble.

Heat maps: These graphical representation displays are helpful in visualizing behavioural data by location. This can be a location on a map, or even a webpage.

Tree maps, which display hierarchical data as a set of nested shapes, typically rectangles. Treemaps are great for comparing the proportions between categories via their area size.



<http://surl.li/gwonk>



Special Focus

APEX: A faster path to hybrid cloud

APEX uses the expertise of Dell Technologies to provide a simple and secure path for enterprises to adopt hybrid cloud infrastructure. This jointly engineered solution provides a consistent operating model and simplified management across private clouds, public clouds and edge locations, reducing the cloud and complexity of multiple clouds and allowing application and business requirements to determine which cloud resources and cloud computing services are ideal for each workload.

APEX includes:

VMware Cloud Foundation on VxRail (VCF), a fully integrated Dell Technologies HCI system that's jointly engineered with VMware and delivered as a turnkey option.

VMware Cloud on Dell Technologies, a Data Center-as-a-Service that's offered as a fully managed, subscription-based service for data center and edge locations.

APEX Validated Designs, a collection of best-of-breed Dell Technologies storage, compute and networking resources that are pre-tested for interoperability with VMware Cloud Foundation.

Dell Technologies partner clouds with support for more than 4,200 major cloud providers, including AWS, Microsoft Azure and Google Cloud Platform.

Best practices for managing your hybrid cloud environment

Data fuels modern business. Organizations of all sizes now have access to more data to guide their decisions than at any point in history, and it's turned data-access technology into big business.

Data storage and analytics require a robust infrastructure to support it, the most recent advancement being the advent of cloud computing technology. By now, your company likely already operates in the cloud, whether through a public or private cloud, an integration with an on-premises server, or some sort of hybrid cloud environment.

Discover the reasons behind the massive migration to hybrid cloud systems and unpack some practical tips on

how to manage your hybrid cloud environment.

Why businesses migrate to hybrid cloud systems

Hybrid cloud systems include any of the various combinations of on-premises and cloud systems. They may be a traditional or legacy system combined with one or more public clouds, a private internal cloud that networks with public clouds, or any similar combination. Businesses choose hybrid cloud systems because they offer seamless scalability—when computing or processing demand increases temporarily or intermittently, on-premise servers can scale their processing and data storage up to the public cloud to handle any excess processing.

This method also provides an added measure of security—utilizing public clouds to handle computing overflow, businesses are only allowing third-party data centers partial access to valuable internal data. The whole system allows effortless flexibility and limitless computing power for non-sensitive processing functions and keeps the more critical information safely protected behind a company firewall.

Businesses are also drawn to the savings provided by hybrid cloud systems. Rather than overspending on additional servers to handle temporary boosts in demand, only to have them sit dormant when the demand drops, hybrid systems give organizations the flexibility to free up internal resources to handle the most sensitive information or applications.

In short, hybrid cloud systems provide three core values to modern businesses: flexibility, scalability, and cost-efficiency, while also creating a secure environment for data exchange.

Best practices for managing a hybrid cloud environment

There aren't any shortcuts in hybrid cloud management. Knowing how to approach security, management, and governance is a combination of preparation and patience, but it will separate you from the average IT manager looking to make things easier, not better.

Here are the essentials to hybrid cloud management.

Gain a firm understanding of what is being managed



Special Focus

While it may seem obvious, this crucial step is ignored by many. Cloud managers need to understand the work and applications that will run on public and private clouds—what they do, how end users will interact with them, how they manage data, how they network, and more.

Tech Beacon provides these questions to ask as you're building your cloud management strategy:

- ▶ Who owns the work assignment within the organization? Who gets the call if and when something goes wrong?
- ▶ What do the work assignments do for the business, and how crucial are they? The answers to these questions will dictate the resources you allot to managing the work assignments on the hybrid cloud, and the resources you spend should always match the value brought to your business by managing the work assignments.
- ▶ When do the work assignments run? Are they continuous or during certain hours during the day? The answer to this will point back to your strategy on how you manage the workload within your hybrid cloud.
- ▶ Do these work assignments run on the public cloud, on the private cloud, or in both places? Why? Do those work allotments need to be reassessed?

Security is a top concern of cloud providers, your customers, and your organization's leadership. An effective hybrid cloud manager is proactive about system security and leverages new resources like IAM (identity and access management) to apply identities to data and devices, controlling who accesses what, and when.

Types of industries that benefit from hybrid cloud

While every business needs to protect its information, organizations that have to remain compliant with federal privacy regulations find critical security solutions by migrating to a hybrid cloud system.

For example, healthcare organizations are required to meet the privacy standards outlined in the Health Insurance Portability and Accountability Act (HIPAA). They might choose to use on-premises servers to host all

private information while using a public or private cloud for all other non-sensitive computing tasks.

Colleges and universities must meet the privacy and security standards drawn out in the Family Education Rights and Privacy Act (FERPA) and might host all student records and financial aid information on on-premise servers while using a private cloud system to handle all other data exchanges.

Similarly, financial institutions required to meet the Payment Card Industry Data Security Standard (PCI DSS) might store all private financial information in on-premises servers while using a secure public cloud system to handle day-to-day transactions.

Consider this example: A university hospital is serious about their HIPAA compliance. As a holder of not just patient records but also financial information related to health insurance companies, they are also serious about PCI DSS compliance. The broader university is responsible for the records of thousands of students, professors, and faculty and must be compliant with FERPA regulations.

In this case, a hybrid cloud system would probably consist of on-premise servers that host and organize all sensitive health information (medical records, etc.), financial information (credit card information, income and financial aid records, etc.) and private student and faculty information (Social Security Number, educational history, etc.), with an additional public cloud service to handle fluctuating computing needs throughout the entire campus, and a private cloud to provide a more limited use, secure system within the network.

It's important to note that as cloud technology expands, cloud providers are increasingly offering security services compliant with federal regulations like these and have become large driving factors for organizations considering adopting cloud technology.

Don't let Cloud complexity delay your journey! Galaxy can help your organization extend a consistent solution set across Cloud optimization. Our strong OEM partnerships help you create a lasting Cloud strategy that unites environments and reduces risk. To talk to our experts, email us at marketing@goapl.com



Apple releases first 'rapid' security fixes for iPhones, iPads and Macs

Apple released its first batch of publicly available “rapid security” patches, aimed at quickly fixing security vulnerabilities that are under active exploitation or pose significant risks to its customers.

According to a notice, the so-called Rapid Security Response updates “deliver important security improvements between software updates.”

Rapid Security Responses were introduced to allow Apple customers to update their devices faster than a typical software update takes. Apple says the feature is enabled by default, and some rapid patches can be installed without rebooting, though not always.

The rapid security update lands for customers running iOS 16.4.1, iPadOS 16.4.1 and macOS 13.3.1. Once installed it will add a letter to the software version — such as iOS 16.4.1 (a), iPadOS 16.4.1 (a) and macOS 13.3.1 (a). Users running older versions of Apple's software will not receive the rapid security fix. Apple said fixes will be included in subsequent software updates.

But Monday's rollout hasn't gone so smoothly. Some customers said that they could not install the update. When TechCrunch tested on an iPhone, iPad and Mac, the updates downloaded but did not immediately install.

It's also not clear what this security update fixes, and Apple did not respond to a request for comment. In recent weeks, researchers have discovered new exploits developed by spyware makers QuaDream and NSO Group aimed at targeting iPhone owners around the world. Both spyware makers exploited previously undisclosed vulnerabilities in Apple's software that allowed their government customers to silently steal data from a victim's device.

<http://surl.li/gwoot>

India's data centre industry to drive 9.1 million sq ft realty demand by 2025

The rising use of digital technology, the migration of IT infrastructure to third-party providers, and the growing usage of data from new and existing channels will result in the addition of 678 MW to the digital transformation industry between 2023 and 2025.

This expansion is expected to drive a demand for 9.1 million sq ft of real estate space, requiring a total investment of \$4.8 billion in both the data centre infrastructure and restate of the data centre sector, showed a JLL India study.

“India's data centre industry has been on a remarkable growth trajectory, doubling to 722 MW in 2022 from 350 MW in 2019, registering a robust CAGR of 27%. This growth shows no signs of slowing down, thanks to the high pace of India's digital transformation,” said Samantak Das, Chief Economist, and Head of Research & REIS, India, JLL.

Mumbai, including Navi-Mumbai, is expected to see the highest capacity addition, requiring 4.7 million sq ft of real estate, followed by Chennai at 2.3 million sq ft and Delhi NCR at 1.0 million sq ft.

“The future looks promising for India's data centre industry, thanks to the pre-commitment of 350 MW by hyperscalers. Hyperscalers public cloud services have been scaling up their requirements significantly and are expected to grow further. This demand is fuelled by the rising digital adoption across sectors and the outsourcing of IT infrastructure to thirdparty players,” said Rachit Mohan, Head - Data Centre Advisory, India, JLL.

<http://surl.li/gwoow>

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