Integrating Technology, Driving Growth

TechTalk

GALAXY
Integrating Technology | Driving Growth

GALAXY OFFICE AUTOMATION PVT. LTD. Issue No. 113, November 2021

Diwali Celebration

Galaxy celebrated the marvellous festival together with interesting activities like karaoke, ring games, buzz wire, balloon shooting and many more. Galaxites dressed up in bright and colourful traditional attire. The office was decked up with beautiful lanterns and diyas to add to the festive mood.

MD SPEAKS

Anoop Pai Dhungat
Chairman & MD

Dear Readers,

On behalf of Team Galaxy, I wish all the Tech Talk readers and patrons a very happy and safe Diwali and new year. It is very nice to see a semblance of normalcy returning to our lives and I hope and pray it only gets better. The past year and a half has been extremely tough on all of us and there have been some good lessons that I learnt and would like to share a few of them with you.

Be humble and caring. Treat others as you would like to be treated yourself. COVID-19 did not look at the social or economic status of any individual before affecting them. It also exposed the good, bad and ugly present amongst us. At the beginning of the pandemic, I know people who were ostracised by their neighbours because someone in their family contracted the disease. On the other hand, I also know a lot of people who went out of their way to help the affected. We have heard of cases, where hospitals, chemists, ambulances and other health care facilities used this as an opportunity to overcharge and take advantage of the helplessness of the victims. Similarly, we have heard of doctors and other health care workers risking their lives to save their patients. There is good and bad in each of us. Just make sure the good overpowers the bad.

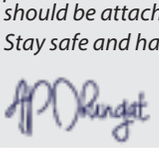
Be prepared, agile and innovative. One should always be prepared for the worst and hope for the best. People and organisations that were able to quickly adapt to the sudden lockdowns were at a clear advantage over those who could not.

Use technology wherever you can. Technology can provide solutions to a lot of problems. We used available technology, and built some that were not available, to enable our people to work from home with the similar efficiencies and security to what they were doing from office. Now, we find that we can use our existing office space for a lot more people and hope to save on our establishment costs in the long run.

Ask yourself whether any travel or commute is actually necessary. I found that because travel and commute was restricted, I suddenly had more hours in my day. Of course, there were certain changes that I was able to make in order to adjust to the work from anywhere culture, but once those adjustments were made, I found that a lot of tasks could be done from where I am.

Mental health needs to be given as much attention as physical health. I have observed many people, including children, getting affected by the extended periods of being physically isolated with the same set of people. So much so that they don't want to go out and meet other people even when it is permitted. Some others show signs of depression, anger or other emotions that were not there earlier. Counselling such people is as important for them as consulting a doctor is for a physically ill person. There is nothing wrong with that and no stigma should be attached for seeking help.

Stay safe and happy reading.



Future Is Now

Metaverse as the next major computing platform?

The metaverse doesn't exist - at least not yet. As of today, there isn't anything that could legitimately be identified as a metaverse. A useful parallel for understanding its maturity – with a hat-tip to technology analyst Benedict Evans for the reference – may be the story of when telecoms entrepreneur Craig McCaw first heard about the internet.

Reputedly, it was Apple Chief Executive Steve Jobs who described the implications that a globally distributed network of interconnected computers could have on communications, commerce and information. When Jobs had finished, McCaw's reaction was: "Let's buy it!"

Just as you can't invest in the internet, so, too, can you not identify the metaverse as a unique product, technology or service. A better question might be: what could become the metaverse?

Facebook recently changed its name to "Meta" to align the company with its ambitions to build the "metaverse."

Microsoft and Nvidia are also working on their own versions of the metaverse.

The metaverse is not yet a reality, but it could be the next evolution of the internet.

The idea is that "extended reality" – the combination of augmented, virtual and mixed reality – will become a key medium for social and business engagement.

Technologists would answer that the internet will eventually evolve into the metaverse, which will come to represent the next major computing platform. If the concept can be actualized, it is expected to be as transformative to society and industry as the mobile phone.

The internet today is often the main entry point for millions of us to access information and services, communicate and socialize with each other, sell goods, and entertain ourselves. The metaverse is predicted to replicate this value proposition - with the main difference being that distinction between being offline and online will be much harder to delineate.

This could manifest itself in several ways, but many experts believe that "extended reality" (XR) – the combination of augmented, virtual and mixed reality – will play an important role. Central to the concept of the metaverse is the idea that virtual, 3D environments that are accessible and interactive in real time will become the transformative medium for social and business engagement. If they are to become practical, these environments will be dependent on widespread adoption of extended reality. Until now, XR technologies have mostly been limited to a subset of video games and niche enterprise applications. However, as games increasingly become platforms for social experiences, the likelihood increases that their characteristics – discoverable and continuous virtual worlds, mediums for open and creative expression, and conduits for pop culture – can and will be applied to other contexts.

Linking digital assets to real-world economic activity in the metaverse

The metaverse is also expected to have a strong connection with the real-world economy – and eventually become an extension of it. In other words, the metaverse must have the ability for companies and individuals to participate in economic activity in the same way they do today. Simply put, this means being able to build, trade and invest in products, goods and services.

To a certain extent, this may rely on non-fungible tokens (NFTs) as the foundation for value creation. A NFT is a claim of ownership for a unique, non-interchangeable digital asset that is stored on a blockchain. If NFTs become a commonly adopted tool for trading such goods, they could help accelerate the use of XR ecosystems as places people go to combine elements of the digital economy with their offline lives. One way to think of this process is how the App Store encouraged businesses to digitize their operations, so that

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consumers could experience (and pay for) their products and services from any location. This legitimized the idea that retail and digital need not be separate, paving the way for a whole host of use cases that might not initially have made sense.

For example, it is plausible that Peloton, a company producing exercise equipment and video-streamed fitness classes, would not exist without the App Store. Without a widely adopted medium for digital consumer experiences, a service literally grounded in physical activity would have a weak business case for going online.A successful vision of the metaverse sees transformations like these taking place at an accelerated pace and universal scale.

Characteristics and challenges of the metaverse

If all this explains the foundations of the metaverse, it unfortunately cannot predict exactly what it will look like. Indeed, we're still in the conceptual stage of the metaverse.However, investor Matthew Ball identifies seven core attributes which may help curious minds imagine how it could take shape. These include its persistence (no obvious 'on' or 'off' to access), synchronicity (existing in real-time) and interoperability, as well being populated by content and experiences by both individuals and businesses.There are of course questions about what the metaverse will mean for privacy, whether it will be inclusive, and how to mitigate harmful content and environments that could be created. Because the metaverse is in the early phases of development, there is an opportunity now to build in these attributes by design.The idea of the metaverse may sound promising, which is why many of the world's leading technology companies are investing in its development. If it can come to fruition, it is conceivable that it will transform consumer and enterprise behavior.

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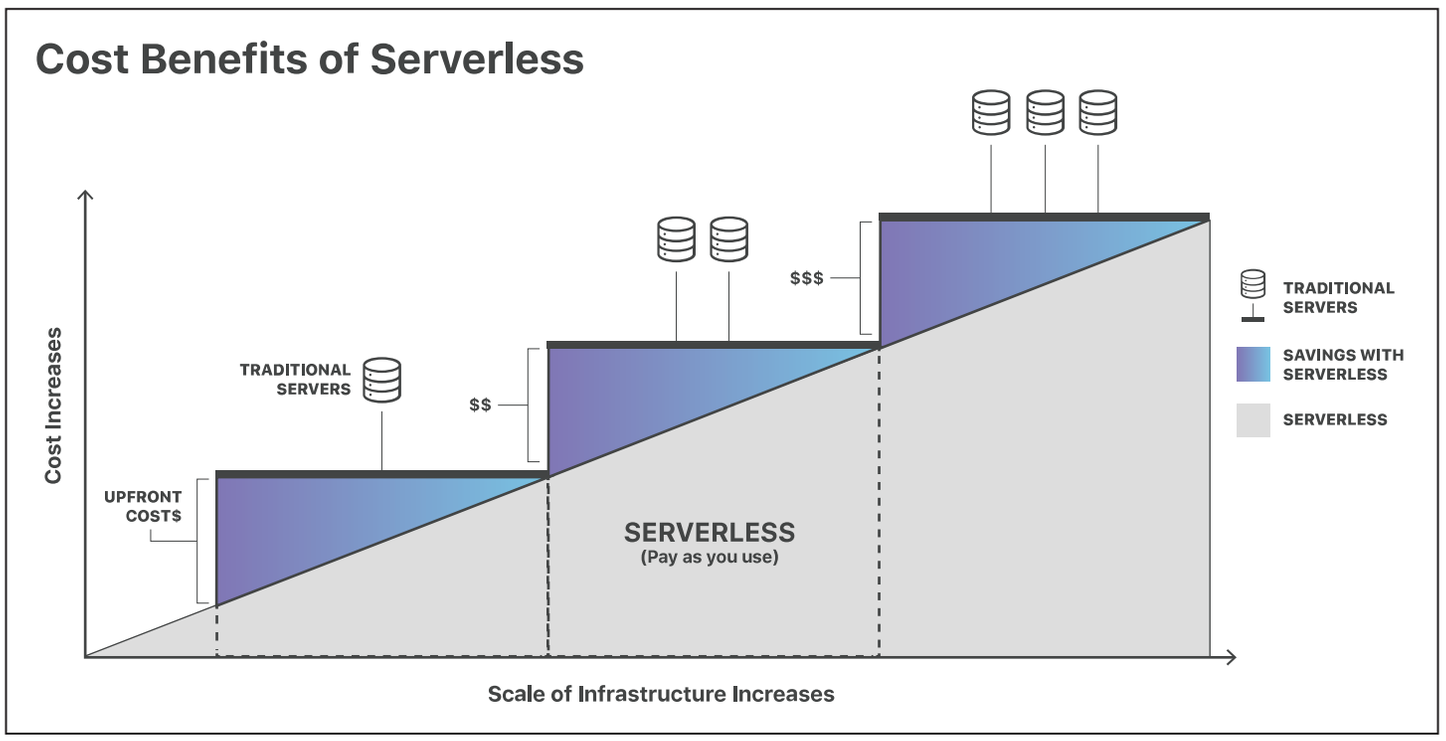
Serverless computing

Serverless computing is a relatively new cloud offering but demand for the service is expected to grow by 25 percent by 2025. It is especially beneficial for software developers who no longer have to manage and maintain network servers because all resources are allocated by the cloud service provider. Serverless computing removes the need for cloud application developers to have extensive expertise in AWS or Google Cloud Platform. Since they only need to interact with the serverless interface, developers can be more productive, focusing on development, UX and UI instead of IT infrastructure.With the increased adoption of serverless computing expect to see more developer collaboration tools to help front-end teams optimize workflow.

What is serverless computing?

Serverless computing is a method of providing backend services on an as-used basis. A serverless provider allows users to write and deploy code without the hassle of worrying about the underlying infrastructure. A company that gets backend services from a serverless vendor is charged based on their computation and do not have to reserve and pay for a fixed amount of bandwidth or number of servers, as the service is auto-scaling. Note that despite the name serverless, physical servers are still used but developers do not need to be aware of them. In the early days of the web, anyone who wanted to build a web application had to own the physical hardware required to run a server, which is a cumbersome and expensive undertaking. Then came cloud computing, where fixed numbers of servers or amounts of server space could be rented remotely. Developers and companies who rent these fixed units of server space generally over-purchase to ensure that a spike in traffic or activity will not exceed their monthly limits and break their applications. This means that much of the server space that gets paid for can go to waste. Cloud vendors have introduced auto-scaling models to address the issue, but even with auto-scaling an unwanted spike in activity, such as a DDoS Attack, could end up being very expensive.

Serverless computing allows developers to purchase backend services on a flexible 'pay-as-you-go' basis, meaning that developers only have to pay for the services they use. This is like switching from a cell phone data plan with a monthly fixed limit, to one that only charges for each byte of data that actually gets used.



Technology Focus

What are the advantages of serverless computing?

Lower costs - Serverless computing is generally very cost-effective, as traditional cloud providers of backend services (server allocation) often result in the user paying for unused space or idle CPU time.

Simplified scalability - Developers using serverless architecture don't have to worry about policies to scale up their code. The serverless vendor handles all of the scaling on demand.

Simplified backend code - With FaaS, developers can create simple functions that independently perform a single purpose, like making an API call.

Quicker turnaround - Serverless architecture can significantly cut time to market. Instead of needing a complicated deploy process to roll out bug fixes and new features, developers can add and modify code on a piecemeal basis.

What is next for serverless?

Serverless computing continues to evolve as serverless providers come up with solutions to overcome some of its drawbacks. One of these drawbacks is cold starts.Typically, when a particular serverless function has not been called in a while, the provider shuts down the function to save energy and avoid over-provisioning. The next time a user runs an application that calls that function, the serverless provider will have to spin it up fresh and start hosting that function again. This startup time adds significant latency, which is known as a 'cold start'.Once the function is up and running it will be served much more rapidly on subsequent requests (warm starts), but if the function is not requested again for a while, the function will once again go dormant. This means the next user to request that function will experience a cold start. Up until fairly recently, cold starts were considered a necessary trade-off of using serverless functions.As more and more of the drawbacks of using serverless get addressed and the popularity of edge computing grows, we can expect to see serverless architecture becoming more widespread.

Don't let Serverless computing complexity delay your journey! Galaxy can help your organization extend a consistent solution set across Serverless computing. Our strong OEM partnerships help you create a lasting Serverless computing strategy that uni¬es environments and reduces risk.

https://cutt.ly/EToS9G5

Adopt a Zero Trust mindset

Zero Trust is a security model, a set of system design principles, and a coordinated cybersecurity and system management strategy based on an acknowledgement that threats exist both inside and outside traditional network boundaries. Zero Trust repeatedly questions the premise that users, devices, and network components should be implicitly trusted based on their location within the network. Zero Trust embeds comprehensive security monitoring; granular, dynamic, and risk-based access controls; and system security automation in a coordinated manner throughout all aspects of the infrastructure in order to focus specifically on protecting critical assets (data) in real-time within a dynamic threat environment.

To adequately address the modern dynamic threat environment requires:

• Coordinated and aggressive system monitoring, system management, and defensive operations capabilities.

• Assuming all requests for critical resources and all network traffic may be malicious.

• Assuming all devices and infrastructure may be compromised.

• Accepting that all access approvals to critical resources incur risk, and being prepared to perform rapid damage assessment, control, and recovery operations.

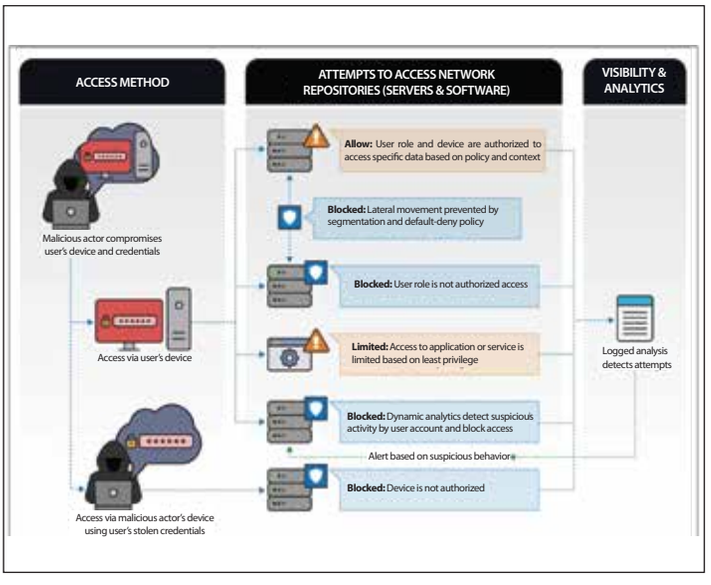
• Embrace Zero Trust guiding principles

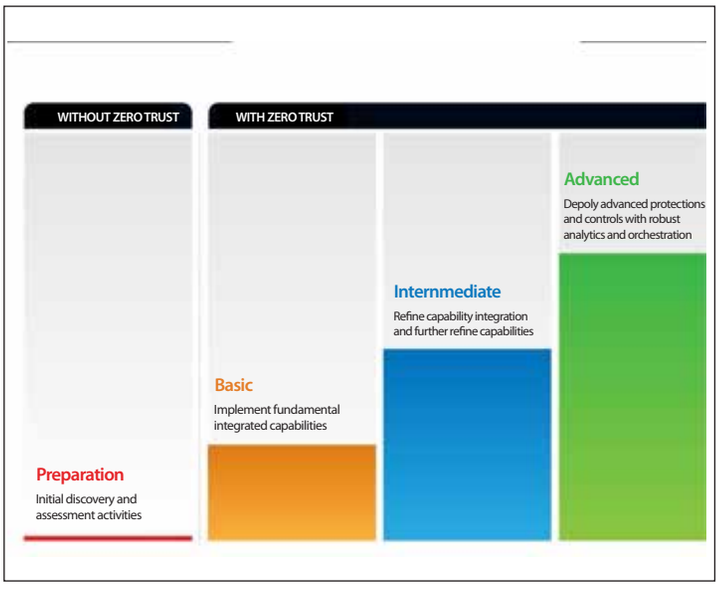
A Zero Trust solution requires operational capabilities that:

Never trust, always verify – Treat every user, device, application/workload, and data flow as untrusted. Authenticate and explicitly authorize each to the least privilege required using dynamic security policies.

Assume breach – Consciously operate and defend resources with the assumption that an adversary already has presence within the environment. Deny by default and heavily scrutinize all users, devices, data flows, and requests for access. Log, inspect, and continuously monitor all configuration changes, resource accesses, and network traffic for suspicious activity.

Verify explicitly – Access to all resources should be conducted in a consistent and secure manner using multiple attributes (dynamic and static) to derive confidence levels for contextual access decisions to resources. Galaxy can help implement Zero trust security for clients kindly connect to njalan@goapl.com for more details.





Volocopter's massive cargo drone lifts off in public for the first time

The VoloDrone in action

Better known for its work developing audacious 18-rotor flying taxis to solve congestion in city centres, Volocopter is adapting its expertise in electric aviation for the purposes of moving heavy cargo. Its giant VoloDrone has now completed its very first public flight, demonstrating how it can safely transport large loads with the help of cargo bikes and play a key role in an all-electric multi-mode delivery system. Since introducing the VoloDrone in 2019, Volocopter has carried out regular test flights in closed airfields around Germany. Like the Volocopter itself, the giant drone uses 18 rotors, a battery and electric motors to hoist itself into the air, using a rail attachment system in between its landing gear to carry payloads of up to 200 kg (440 lb) over a 40-km (24-mile) range.

"**This first public VoloDrone flight is a strong sign for Volocopter´s leading position in the UAM (urban air mobility) industry,"** says Florian Reuter, CEO of Volocopter.

On Tuesday, the VoloDrone carried out its first simulated delivery in the public arena, with the exercise undertaken together with logistics firm DB Schenker. This took place as part of ITS World Congress 2021 in Hamburg, and began with the team securing a load to the VoloDrone's under carriage. The aircraft then took off, reaching an altitude of 22 m (72 ft) and carrying the load over a three-minute flight to a nearby carpark, where it came down to land safely. From there, electric cargo bikes were used to transfer the load to its destination beneath a nearby decking.

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Tech News

Microsoft Windows11 release

As the PC continues to play a more central role in our lives than ever before — Windows 11 is ready to empower your productivity and inspire your creativity.

Here are 11 highlights of this release

• The new design and sounds are modern, fresh, clean and beautiful, bringing you a sense of calm and ease.

• With Start, we've put you and your content at the centre. Start utilizes the power of the cloud and Microsoft 365 to show you your recent files no matter what device you were viewing them on.

• Snap Layouts, Snap Groups and Desktops provide an even more powerful way to multitask and optimize your screen real estate.

• Chat from Microsoft Teams integrated into the taskbar provides a faster way to connect to the people you care about.

• Widgets, a new personalized feed powered by AI, provides a faster way to access the information you care about, and with Microsoft Edge's world class performance, speed and productivity features you can get more done on the web.

• Windows 11 delivers the best Windows ever for gaming and unlocks the full potential of your system's hardware with technology like DirectX12 Ultimate, Direct Storage and Auto HDR. With Xbox Game Pass for PC or Ultimate you get access to over 100 high-quality PC games to play on Windows 11 for one low monthly price. (Xbox Game Pass sold separately.)

• Windows 11 comes with a new Microsoft Store rebuilt with an all-new design making it easier to search and discover your favourite apps, games, shows, and movies in one trusted location. We look forward to continuing our journey to bring Android apps to Windows 11 and the Microsoft Store through our collaboration with Amazon and Intel; this will start with a preview for Windows Insiders over the coming months.

• Windows 11 is the most inclusively designed version of Windows with new accessibility improvements that were built for and by people with disabilities.

• Windows 11 unlocks new opportunities for developers and creators. We are opening the Store to allow more developers and independent software vendors (ISVs) to bring their apps to the Store, improving native and web app development with new developer tools, and making it easier for you to refresh the look and feel across all our app designs and experiences.

• Windows 11 is optimized for speed, efficiency and improved experiences with touch, digital pen and voice input.

• Windows 11 is the operating system for hybrid work, delivering new experiences that work how you work, are secure by design, and easy and familiar for IT to deploy and manage. Businesses can also test Windows 11 in preview today in Azure Virtual Desktop, or at general availability by experiencing Windows 11 in the new Windows 365.

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