GALAXY
Integrating Technology | Driving Growth

TECH TALK

Issue 162
December 2025

Pioneering Tech Leadership with a Legacy of Excellence.

AIM

Galaxy Office Automation Pvt. Ltd.

We are proud to announce that we have been awarded “Cloud Service Provider of the Year” by AMD!

This prestigious recognition reflects our unwavering commitment to delivering high-performance cloud solutions and creating meaningful business impact for our customers.

A heartfelt thank you to AMD for this honor, to our incredible team for their dedication, and to our valued partners and clients for their constant trust and collaboration.

Here’s to driving innovation, delivering excellence, and achieving many more milestones together!

Foreword

Dear Readers,

As we approach the close of 2025, it's time for our annual tradition of reflection. Last January, I shared our predictions for the technologies poised to define this year. Now is the time to look back with humility and insight at what unfolded.

2025 saw the rapid rise of AI agents from script-following tools to collaborative partners. Their integration into business process automation, supply chain optimisation, and personalised digital services has been prolific. The key development was the widespread adoption of agentic swarms, where multiple AI agents collaborate, debate solutions, and execute multi-step projects with minimal human intervention.

Google's Willow Quantum chip catalyzed the exact market response we anticipated. The perception of the quantum threat reached a tipping point. So much so that NIST standards began formal ratification, major tech firms rolled out PQC pilots in their cloud services, and financial institutions started mandatory crypto-agility audits. The demand for PQC tools and consultancy exploded, and by late October 2025, Cloudflare reported that the majority of human-initiated traffic on its network had achieved post-quantum encryption protection through X25519MLKEM768 hybrid key agreement.

As GPU costs dropped, the bottleneck shifted decisively from compute to data. Organisations realised that their AI-ready data was far less ready than they thought. Data engineering moved from the back office to the boardroom, with massive investments in pipelines capable of serving real-time, hygienic, and ethically governed data to hungry AI models.

Our prediction of energy-efficient GPUs or alternatives gaining widespread adoption was clearly premature, and I guess we need to wait some more to see this happen. One of the positives is that now TPUs (Tensor Processing Units), custom AI accelerator chips built by Google specifically for speeding up deep-learning models, will possibly be available outside the Google ecosystem.

Foreword

The adoption of AI-Assisted Cybersecurity soared in 2025, and as expected so did the AI-powered attackers. The landscape has evolved into a relentless AI-on-AI arms race and those relying on traditional non AI tools for cybersecurity will be the easiest targets.

At Galaxy, we believe the value of predictions lies not in being right, but in being prepared. Our 2025 forecast helped us and our clients build strategic conversations around the right technologies. We got more right than wrong, and even our misses contained valuable lessons about the accelerating pace of change.

As we turn our gaze to 2026, we carry these lessons forward. The dialogue between prediction and reality is what drives progress. Thank you for being part of this journey with us.

We invite you to continue this conversation with our experts as we analyse what 2025's outcomes mean for your 2026 roadmap. The future is not only predicted but built, and we are here to help you build it.

Happy reading!

Anoop Pai Dhungat
Chairman & Managing Director

A 3D Robot Fish That Eats Microplastics from Waterways?

This plastic-eating, self-powered robotic fish could mark the beginning of a new era in environmental clean-up, in which technology doesn't just consume energy but gives some back to the planet.An invention born from a contest at England's University of Surrey might be swimming us closer to cleaner oceans. Researchers have created a robotic fish that doesn't just collect plastic pollution; it feeds on it.

This robot-fish, designed to fight the growing crisis of microplastic contamination, uses a microbial fuel cell that digests plastic particles and turns them into energy.In other words, the more plastic it eats, the more energy it has to keep swimming, making it one of the world's first self-sustaining robots built for the environment.

The project began as part of the Natural Robots Contest at the University of Surrey, which invited participants to design bio-inspired machines that could help the planet.

The winning design came from undergraduate chemistry student Eleanor Mackintosh, whose vision of a fish-shaped robot named Gillbert captured the judges' attention.

From Mackintosh's concept, university engineers brought Gillbert to life, transforming it into a foot-long,
tail-flapping robot that swims like a salmon and filters the water as it goes.

As it glides through oceans, rivers, or lakes, the robo-fish keeps its mouth open to pull in water. Inside, a fine mesh captures microplastic particles as small as two millimeters while pushing clean water back out through gill-like flaps.

The robot even glows in the dark, a feature that helps researchers keep track of its movement and progress.Small onboard sensors track light levels and water quality, offering valuable environmental data along the way.

And get this:

The fish's open-source design is free to download and printable with a 3D printer, which means anyone, anywhere can build their own robo-fish and join the clean-up effort.

The environmental potential here is enormous, experts say. Microplastics (tiny fragments formed when larger plastics break down) are now found everywhere: in the food we eat and the water we drink, ultimately making their way into our bloodstream.

These particles can damage cells, disrupt hormones, and spread toxic chemicals throughout the food chain. According to Dr. Robert Siddall, roboticist and creator of the contest, the robo-fish could become a vital tool in understanding and controlling this invisible pollution.

“We don’t know where the vast majority of plastic dumped into our waterways ends up,” Siddall explained. “We hope this robo-fish and its future descendants are the first steps in the right direction to helping us find and eventually control this plastic pollution problem.”

The original robo-fish was operated remotely, but future versions could swim autonomously, capture even smaller particles, and cover greater distances.

At a time when millions of tons of plastic enter our oceans every year, this innovation blends environmental science, robotics, and creativity in a way that feels both hopeful and practical. The robo-fish isn’t just cleaning the water; it’s showing how nature-inspired technology could help heal the damage we’ve caused, one bite of plastic at a time.

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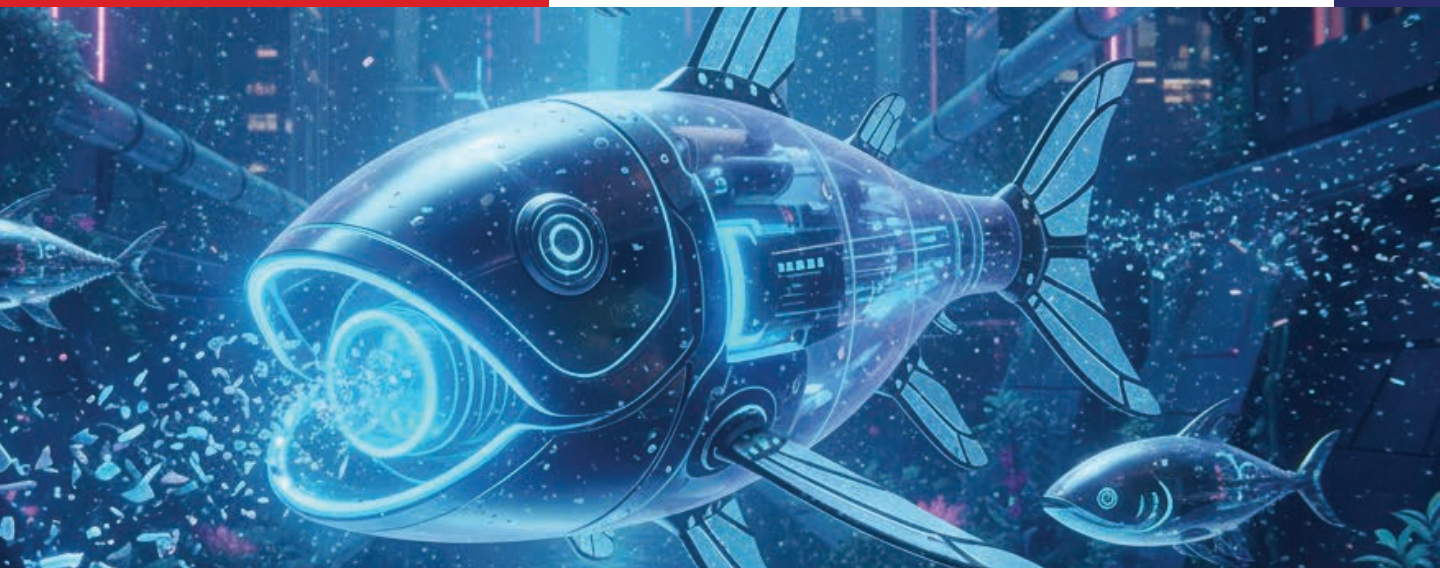

TECHNOLOGY FOCUS

Understanding Cloud Native DevOps: The Future of Software Delivery

Based on its name, cloud-native DevOps may seem to be the practice of running containerized applications in the cloud, but this definition is misleading. Instead, cloud-native DevOps is a method to structure your teams to take advantage of the automation and scalability that cloud-native technologies, such as containers and Kubernetes, offer—so you can increase the velocity of your business.
In this article, we'll take a look at cloud native DevOps.

Purpose of Security Management

To properly define or explain cloud native DevOps, we must first understand cloud native apps (CNAs) and DevOps.

- CNAs are applications built for resiliency, agility operability, and observability in mind.
- DevOps is a practice of operations and dev engineers working together throughout the entire lifecycle.

Based on both explanations, we can see that nothing is related to the cloud; they are simply principles and methodologies followed while working on a set of services or applications. Therefore, we can define cloud native DevOps as a set of practices that involves continuous improvement, automation, cross-functional teams, and better alignment with business needs, with customer expectations in mind. These principles apply to people, tools, culture, and process, not where the actual application lives (cloud or on-prem).
At its core, Cloud Native DevOps is a way to increase the velocity of your business and a method to structure your teams to take advantage of the automation and scalability that cloud native technologies like containers and Kubernetes offer. By nature, these cloud native technologies are designed to be:

• Resilient. Embracing failures instead of trying to prevent them, taking advantage of the dynamic nature of running on a platform.

• Agile. Allowing for fast deployments and quick iterations.

• Operable. Adding control of application life cycles from inside the application instead of relying on external processes and monitors.

• Observable. Providing information to answer questions about the application state.

Changes needed to implement cloud native DevOps

To properly implement cloud native DevOps, changes must happen in three key areas:

1. Cultural change from silos to proper DevOps. As mentioned above, it is not necessary to run applications in the cloud in order to be cloud native, but DevOps is a must in order to practice cloud native. The goal of DevOps is to align everyone with the same tools and a common set of priorities.

2. Organizational change involving buy-in from everyone to work in collaboration to achieve the same goal. The idea is to encourage a faster feedback loop betweendevelopers and end users, which in turn speeds up application development and provides action items for the business.

3. Technical change which relates to the way the application is built. For example, moving from monolith to microservices.

Ways to implement cloud native DevOps

Implementing CNAs is not as straightforward as deploying into the cloud. To be considered cloud native, a CNA needs to meet certain characteristics:

1. Aligning with the microservices patterns. Monolithic apps should be broken into small services that can be developed independently. As long as each service adheres to a strong contract, it can be iterated on. All these services comprise the application.
2. Using containerization. Code can be packaged without worrying about the underlying system.
3. Following declarative communication pattern. CNAs must trust that the network will deliver the message and that it will return either a success or a failure. This helps standardize a communication model, moving the functional implementation of how something achieves a desired state away from the application to a remote API or service endpoint.
4. Deploying container orchestration. Perhaps the biggest orchestration platform out is Kubernetes, and for good reason. The biggest benefit of k8s is the fact that it abstracts away the details of underlying compute, storage, and networking resources.
5. Writing code according to 12-factor application principles. This ensures clean, declarative contracts for cloud platform deployments.
6. Increasing automation in CI/CD pipelines. Continuous integration and deployment are nothing new to cloud native, but the added complexity they bring means there must be extra automation in place to deal with the complexity of the pipelines.
7. Exposing health check. This is great for knowing what is going on with the application. The application is telling the platform it is running on which state it is in, which in turn makes monitoring easier.
8. Collecting telemetry data. Things like latency, request per minute, etc., are information that is needed to determine whether you are meeting service level objectives (SLO). Telemetry data can and should be alerted on to consider your application cloud native.

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Of course, cloud native DevOps is no silver bullet—it's just as important to be aware of the drawbacks as the benefits. Still, for companies looking to speed up automation and customize production to better serve customers, cloud native DevOps may be a useful tool.

At Galaxy, we see Cloud Native DevOps as more than a tech shift—it's a strategy to boost agility, accelerate innovation, and empower teams through automation and scalable cloud-native technologies.

To connect with our experts, write to us at marketing@goapl.com

SPECIAL FOCUS

Cloudflare WAAP: The Future of Unified App & API Security

WAAP (Web Application and API Protection) is a modern security framework that extends and enhances traditional WAF capabilities to protect today's application ecosystems, especially API-driven, microservices-based, and cloud-native architectures.

Cloudflare WAAP delivers comprehensive protection for modern web applications and APIs by unifying next-gen WAF, advanced bot mitigation, API discovery and security, and built-in DDoS defence, all powered by Cloudflare's global edge network. It provides real-time threat detection, automated rule updates, and zero-trust controls, ensuring scalable, consistent security for cloud-native and distributed environments with minimal operational effort.

Key Features

Web Application and API Protection (WAAP)

- **Next-gen WAF with managed rulesets**
- **API discovery, schema validation, and abuse protection**
- **Integrated bot management to block malicious automation**

DDoS Protection

- Always-on, network-level, and application-level DDoS mitigation
- Protection against volumetric, protocol, and application-layer attacks

Content DeliveryNetwork (CDN)

- Global CDN with caching and content optimization
- Smart routing to reduce latency and improve load times

Zero Trust Security

- Zero Trust access control for apps, networks, and devices.

DNS and Traffic Management

- Fast, resilient DNS service (1.1.1.1)
- Load balancing with health checks and geographic routing

Application Performance Optimization

- Image optimization, compression, and resizing
- Edge compute via Cloudflare Workers and Pages

Networking and Connectivity Services

- Magic Transit for on-premises network protection
- Cloudflare Tunnel for secure, outbound-only connectivity

Observability and Analytics

- Real-time logs, dashboards, and threat intelligence
- Edge monitoring and API analytics

Benefits of Cloudflare

- **Unified security:** Protects apps and APIs from DDoS attacks, bots, and web exploits through an integrated WAAP and Zero Trust platform.
- **Improved performance:** Global edge network accelerates content delivery and reduces latency.
- **Low operational effort:** Automated updates and consolidated tools simplify management.
- **Effortless scalability:** Handles traffic surges and large attacks without extra infrastructure.
- **Secure access:** Identity-based, Zero Trust access replaces complex VPN setups.
- **Cost savings:** Reduces reliance on hardware and multiple point solutions.

Use Cases of Cloudflare

- **Protecting web apps and APIs** from OWASP threats, bot attacks, and L7 DDoS.
- **Accelerating websites and applications** with CDN caching and smart routing.
- **Enabling Zero Trust access** for remote and distributed teams
- **Ensuring high availability** via global load balancing and intelligent DNS routing.
- **Defending e-commerce and fintech platforms** from fraud and automation abuse.
- **Tailored to the specific needs** of the logistics and supply chain sectors for protection.
- **Running edge-native applications** using Workers and Pages.

Why choose Cloudflare over the competition

Cloudflare is chosen over competitors for its unified, globally distributed platform that delivers security, performance, and Zero Trust capabilities in a single, seamlessly integrated solution. Its massive edge network provides superior speed and resilience, while automated updates and centralized management significantly reduce operational effort.

With predictable pricing, minimal complexity, and best-in-class protection against modern threats, Cloudflare offers a streamlined, cost-effective alternative to juggling multiple vendors or legacy point solutions

We as a trusted Systems Integrator, partnering with us for Cloudflare implementation and support ensures a seamless, end-to-end deployment that fully leverages the platform's security, performance, and Zero Trust capabilities. With deep expertise in architecture, configuration, and optimization, we provide tailored solutions, continuous monitoring, and proactive support to keep your applications secure and performant. Our partnership minimizes implementation risk, accelerates time-to-value, and allows your teams to focus on core business priorities while we manage the complexity of Cloudflare operations.

To talk to our experts,
email marketing@goapl.com

TECH NEWS

India's IT sector to improve in H2FY26 on AI-led projects, better client engagement.

The Indian information technology (IT) sector is expected to register improved second half of the current financial year, supported by AI-led projects, better client engagement, and an uptick in discretionary spending, according to a report by Centrum Research.

The report highlighted that improved conversion and deal ramps are likely to drive growth in the second half of FY26 (H2FY26). Business momentum is expected to improve progressively through the second half of FY26, driven by the ramp-up of large client engagements and rising demand for AI-first services.

It stated, "commentary points to a gradual recovery into H2FY26, anchored in AI-led projects, improved client engagement, and improvement in discretionary spending patterns".

Among key sectors, banking, financial services, and insurance (BFSI) are expected to lead the recovery, supported by a strong deal pipeline and scalable modernisation programs.

However, the retail and automotive segments are likely to remain under pressure due to external policy factors and weak discretionary spending. On the other hand, technology and healthcare verticals showed selective strength, supported by digital programs and infrastructure upgrades.

The report noted that the overall appetite of clients for transformation remains strong, with investments in cloud, data, and AI driving medium-term demand recovery and ensuring sustainable growth in IT services.

The Q2FY26 performance of IT companies reflected a stable but cautious business environment, with modest sequential growth and a selective recovery in key verticals.

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TECH NEWS

Google launches a more powerful Gemini 3 model for reasoning and vibe coding.

Google began rolling out its hotly anticipated Gemini 3 model on Tuesday as the company aims to stay ahead of rivals OpenAI and Anthropic. CEO Sundar Pichai described Gemini 3 as a "state-of-the-art" and "most intelligent" model, designed to be more capable at coding and reasoning through complex queries.

The company said it is making Gemini 3 available for everyone to try in the Gemini app for Google AI Pro and Ultra subscribers; in AI Mode in Search; for developers through the Gemini API in AI Studio, Google Antigravity, its new agentic development platform, and Gemini CLI; and for enterprises in Vertex AI and Gemini Enterprise.

Since launching Gemini two years ago, Google's AI chatbot has entered the mainstream. The Gemini app has over 650 million users, while AI Overviews are used by 2 billion people every month.

What can Gemini 3 do?

Google has highlighted that Gemini 3 is designed for strong multimodal understanding and is a powerful model for "vibe coding." The company claims that Gemini 3 outperforms its predecessor on every AI benchmark, topping the LM Arena leader board with a score of 1501 points, which demonstrates PhD-level reasoning, earning top marks on Humanity's Last Exam and GPQA Diamond. Gemini 3 Pro also excelled in multimodal reasoning, scoring 81 per cent on MMMU-Pro and 87.6 per cent on Video-MMMU, showcasing how Google's frontier model can solve complex problems across various topics, including science and mathematics.

During a briefing, Google demonstrated how Gemini 3 understands both visual and spatial information and then delivers results. For example, Gemini 3 can decipher and translate handwritten recipes in different languages into a shareable cookbook. By providing Gemini with academic papers and video lectures, it can generate code to create interactive flashcards, making it easier and more visually engaging to learn new topics.

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