Engineered Solutions and Support for GovTech Secure Hybrid Infrastructure Pipeline (SHIP)

Overview

The Government Technology Agency (GovTech) develops and operates the SHIP platform to provide a modern DevOps solution for the Whole-of-Government (WOG). SHIP is an automated continual integration/continual deployment (CI/CD) pipeline to facilitate application development/deployment in a secured environment with a unified DevOps solution to integrate, test, and deliver applications in compliance with government policies.

Aspired to service its customer more effectively, the client needed external support to manage the entire platform infra hosted in Government Commercial Cloud (GCC) and its operations and the applications as well as end-user usage support, to meet peak processing performance, availability, security, government policies compliances e.g., IM8 and customer satisfaction requirements. Addressing the needs, the TechM team collaborated with the GovTech team and is managing the infra and their respective operations successfully.
Client Background and Challenge

As the client platform is hosted in the Government Commercial Cloud (GCC), currently by Amazon Web Services (AWS), some of the operations were done manually like:

- **Manual monitoring:** Continuous monitoring of uptime, health, and performance of cloud services required additional manpower and become a very cumbersome practice.
- **Manual ticket creation for monitoring alerts:** Manually classify alerts into primary and secondary, establish a relationship between them, and log the reports accordingly.

Our Approach and Solution

With a team of 5 members, the TechM is managing the application and cloud operations support with 99% uptime. Along with that, we did some initiatives to address the challenges of manual human efforts:

- Vigilantly monitored the monitored alerts
- Automated the critical monitoring alerts to create incident tickets
- Set up automatic green alerts for the monitoring mechanism
- Automated Amazon Elastic Block Store (EBS) volume daily statistics
- Built monthly maintenance activity for SHIP components (OS patching, security patching, and version upgrade)
- Improvised the process for faster ticket resolution, and effective customer handling

Business and Community Impact

- **Reduced human efforts:** Automated monitoring and process significantly reduce the number of people required to monitor.
- **High availability of the system:** The automated operations lower the risk of downtime/ breakdowns and ensure the system can handle multiple tasks simultaneously.
- **Significant cost saving:** With automated business processes and reduced human energy, the core resources can be used optimally and cost-effectively.
- **Reliable insights:** By leveraging automation, the client can easily gain reliable insights and analyze data at a deeper level.

With continued support, the TechM team along with the SHIP-HATS team, management reps, and product team successfully completed Incident management TTX (Tabletop Exercise).

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