



OPCITO TECHNOLOGIES

Optimizing FinTech Infrastructure & Observability with Azure & Datadog

About The Customer

The customer, a leader in the FinTech space, is at the forefront of modernizing regulatory compliance for financial institutions. Recognizing the critical need for agile and secure operations in the face of evolving regulations, they are on a transformative journey. To support their initiatives and ensure robust security for their sensitive data and applications, they leverage Azure services like AKS, App Services, Storage Accounts, Key Vaults, DNS, Private Endpoints, Virtual Networks, VMs, Azure functions and Azure monitors.

Business Challenge

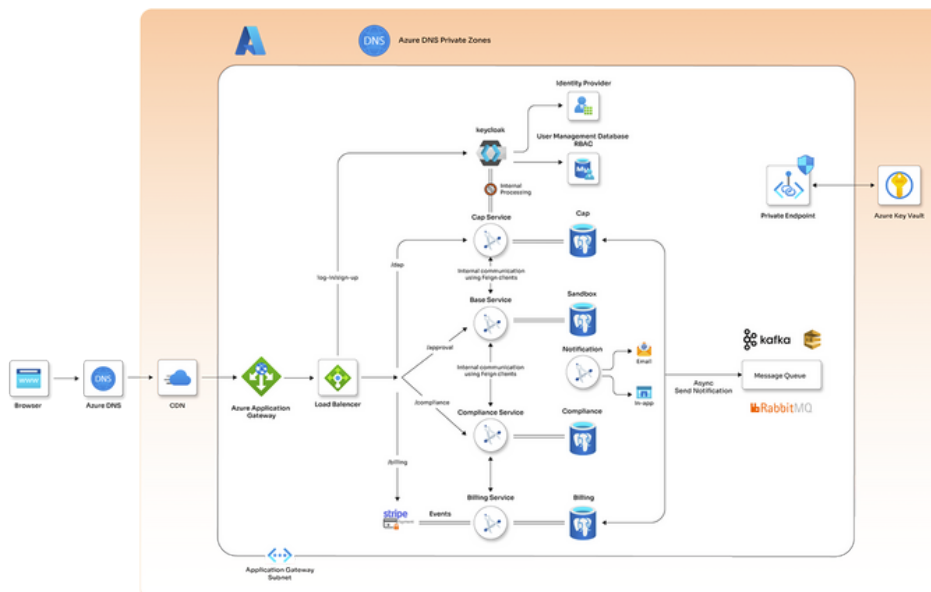
The customer was facing significant operational challenges in managing their cloud infrastructure.

- **Lack of infrastructure automation:** Manual processes for infrastructure management led to inefficiencies, increased operational overhead, and a higher risk of human error in cloud management and deployment.
- **Security and compliance constraints:** The critical requirement for a fully private infrastructure, particularly concerning data connections between services and databases, limited their ability to leverage cloud-native solutions effectively while adhering to stringent security and compliance regulations.
- **Lack of standardization:** The absence of standardized systems for Continuous Delivery (CD) on their production AKS cluster and managing database backups resulted in inconsistent deployments, increased risk, and hindered rapid innovation.
- **Inadequate monitoring:** The existing monitoring system lacked the robustness to effectively scale with their growing infrastructure, leading to limited visibility into system performance and potential bottlenecks, hindering proactive issue resolution.
- **CI/CD fragmentation:** The existing CI/CD setup relied on a mix of Azure DevOps and GitHub Actions, creating complexities and hindering efficient workflow orchestration and seamless integration across the development lifecycle.

How Opcito Helped

To address the client's challenges, Opcito proposed a comprehensive solution focused on enhancing operational efficiency and improving overall infrastructure management. This involved a multi-pronged approach, leveraging a combination of tools and technologies to automate processes, improve security, and enhance observability.

- **Infrastructure as Code (IaC) Modernization:** Transitioned infrastructure management to Terraform, updating and standardizing IaC to ensure private and secure infrastructure. Leveraged Ansible with Jinja templates for infrastructure code generation, enabling scalable and consistent deployment processes.
- **Automation and Orchestration:** Automated repetitive configurations and provisioning tasks, significantly reducing manual effort and minimizing human error. Created and maintained robust CI/CD pipelines primarily using Azure DevOps, streamlining the software delivery lifecycle.
- **Enhanced Continuous Delivery (CD):** Added Azure VMs as agents for Continuous Delivery (CD) to production AKS clusters, optimizing deployments and facilitating seamless management of critical production database backups.
- **Observability Monitoring:** Adopted Datadog as the observability platform, creating comprehensive monitors, dashboards, and alerts through Infrastructure as Code (IaC) using the Datadog provider.
- **Monitoring:** Enabled real-time visibility into system performance and resource usage, facilitating proactive issue identification and resolution.
- **Database Backup and Recovery:** Set up automated database backup pipelines using Azure VMs, ensuring regular and reliable backups of critical production data and enabling efficient recovery plans in case of unforeseen events.



Technologies, Tools, and Platforms used

AZURE (VIRTUAL MACHINES, AKS, PRIVATE ENDPOINTS, STORAGE ACCOUNTS, KEY VAULTS, DNS, VMS, VIRTUAL NETWORKS)

TERRAFORM (IAC)

ANSIBLE (JINJA TEMPLATES)

AZURE DEVOPS

GITHUB ACTIONS

DATADOG (OBSERVABILITY)

About Opcito

At Opcito, we believe in designing transformational solutions for our customers, start-ups, and enterprises, with our ability to unify quality, reliability, and cost-effectiveness at any scale. Our core work culture focuses on adding material value to your products by leveraging best practices in DevOps, like continuous integration, continuous delivery, and automation, coupled with disruptive technologies like containers, serverless computing, and microservice-based architectures. We also believe in high standards for quality with a zero-bug policy and zero downtime deployment approach.



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