

| Case Study

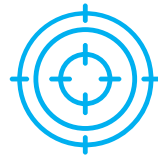


Intelligent Cloud-Based "Healthcare Delivery Platform" for a Major Healthcare in US

Summary

Healthcare & Life Science research is being transformed thanks to recent developments in AI technologies and cloud computing. This particular case study looks at a platform native to the cloud and its enhancement of data processing. The AI enabled hybrid cloud scaling and inferencing in the solution provided gave real-time insights, which streamlined processes and increased compliance, which ensured outcomes were reached and collaboration was enhanced further.





Scope

- **Cloud-Native Edge Platform System Modernization:** Engineering design and delivery services to support cloud-native edge AI workloads for medical modalities.
- **On-Demand Hybrid Cloud Scaling:** Co-processing DICOM medical modality images in the cloud to support third-party AI processing using cloud resources.



Solution

- Designed an Edge Platform AI Processing Platform with Kubernetes-as-a-Service for workload scheduling and mission-critical resiliency.
- Simplified cost and resource management through an integrated model for unmanaged IaaS resources.
- Established observability across workloads with deployment automation pipelines and GitOps delivery.
- Provided an API-First Hybrid Cloud Management Platform for workload migration between AWS and on-prem Kubernetes.



Approach

Hybrid Edge Provisioning Platform:

- Enabled CI/CD integration into Terraform for IaaS provisioning and Kubernetes fleet management, supporting Multi-Access Edge Computing (MEC).
- Delivered real-time AI inferencing with sub-4-second response times to meet FDA 92-second SLA requirements.
- Centralized deployment of compute, workloads, and storage using a unified interface.

Shift Left Security Model

- Automated risk scoring for workloads via a DevSecOps pipeline with self-service risk approvals.
- Enforced policy-as-code using Open Policy Agent for resource tagging during deployment..



Benefits

- Improved patient outcomes with rapid remote diagnostics and system recovery.
- Generated clinical insights with advanced AI algorithms on multi-source edge data.
- Enabled third-party application delivery with self-service capabilities.
- Supported 100+ services through a catalog-as-a-service model.
- Reduced field service needs with embedded remote diagnostics.
- Enhanced observability for failure analysis and actionable data points.
- Streamlined hybrid platform scaling across metro-cloud and public cloud resources.



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