NANYANG TECHNOLOGICAL UNIVERSITY SINGAPORE

School of Computer Science and Engineering
College of Engineering

Service mesh

Enhancing the resiliency, security, observability and availability of the live stream ASR cloud deployment

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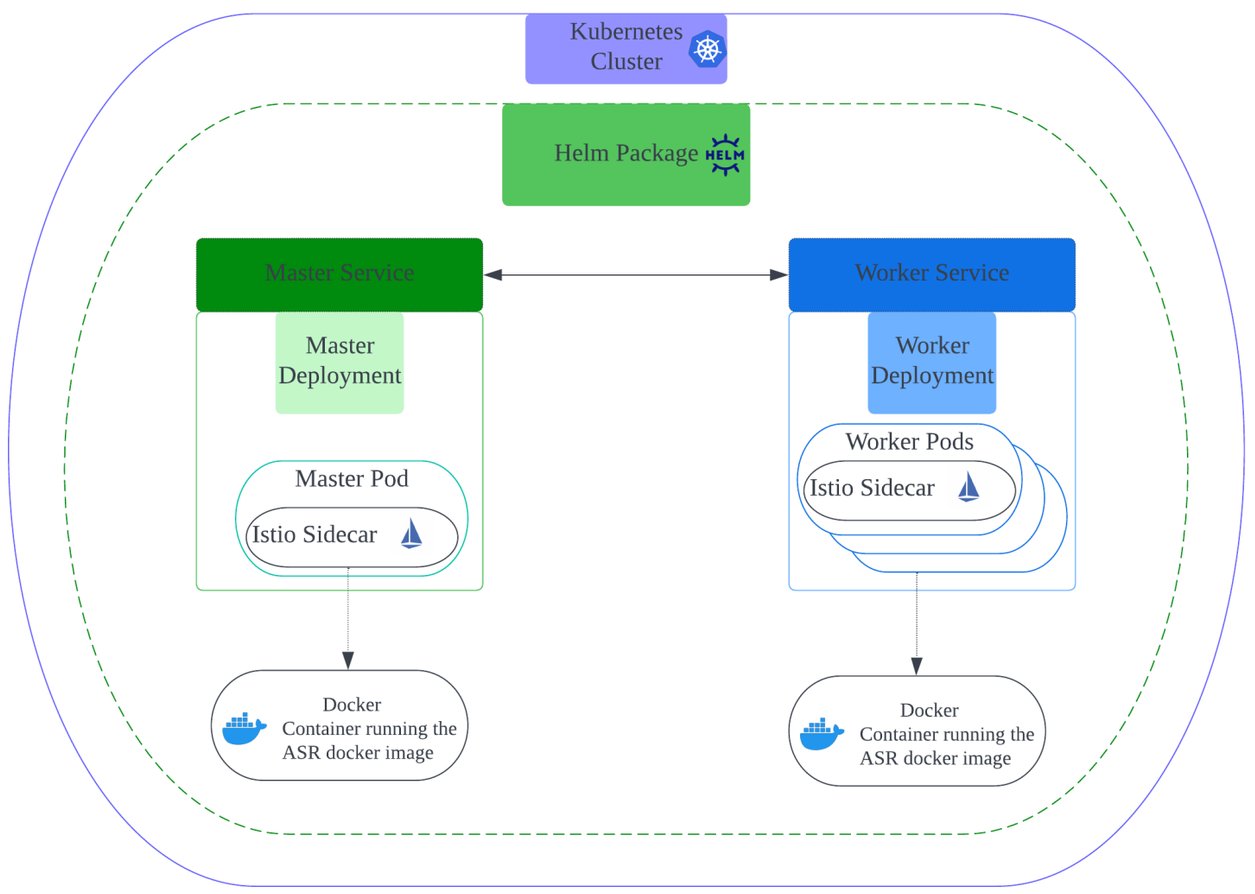

Project Objectives:

This project serves to bridge the existing gaps in the Automatic Speech Recognition's (ASR) microservices architecture in terms of resiliency, availability, observability and security. The Istio service mesh is used as the main driver behind the various implementations. Traffic management strategies, smart deployment strategies, encrypted service-to-service communication and mesh-collected metrics are used to make the ASR more scalable, available and secure.

Project Solutions:

The following solutions are implemented for this project:

- **Istio service mesh:** a dedicated infrastructure layer that is added to the application level.

- **Kubernetes:** container orchestration tool used to support automation of software deployment, scaling and management.

Implemented Solutions: