Track 3 Prompt: Hack for the Ocean – A DevOps Challenge

Scenario

It's August 30, 2005 and you're in a Super Stallion, CH-35 helicopter taking off from the USS IWO JIMA (LDH 8), and amphibious assault helicopter carrier deployed as the first responder to support the many people in need on the gulf coast. You touch down in the Navy's command and control center within a disaster stricken New Orleans. Hurricane Katrina made landfall yesterday and is in the process of becoming the deadliest and costliest hurricane in US history. Major streets are flooded, windows are blown out of almost every building, entire highway overpasses are underwater. Your task force has been given the responsibility to deploy the infrastructure to coordinate the Navy's disaster relief efforts with civilians in need and independent NGOs.

Figure 1. USNS MERCY Delivering relief supplies in support of hurricane Katrina victims.

As it stands, the Navy has stood up a cloud environment, but it is up to you to build an application that by deploying services within the environment and connecting these services as a cohesive application. Important data will be streaming through these services and the first responders are depending on you. See Participant Read Ahead for more information on how to access the environment and to learn more about the environment itself.

Requirements and Submission Guidelines

There are three mandatory requirements for this application. Your team is required to work within the Navy environment that has been stood up for this scenario. You must package and deploy the application using containers (i.e. Docker, Kubernetes, etc.). You must use Git throughout to build and update your application.

The deadline for submissions is at 12:30 (Noon 30) on Sunday. To be in the running to win the competition, teams will be expected to submit a completed application, a short written overview of the application, a diagram of the services and how they connect, and give a 4 minute pitch to the judging panel on the application you have deployed.

Application Components

Services you have available to build the application fall within the categories listed below. More technical information on how to build the application and the data sets available for integration are available in the subsequent sections.

- Data Pipeline Framework
- Data Processing and Analytics Framework
- Data Representation & Persistence Framework
- Data Visualization Framework
- Geospatial Data Access Layer & GIS Services
- Ingress and Egress Dataflow Management Framework
- Marketplace
- Mediation Framework
- Platform as a Service (PaaS)
- Security Management

For information on scoring see the Scoring Rubric and Judging Scorecard.