



# Dynamically-Provisionable Backend Storage Solution for Tamizar Testing

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## Problem Statement

Tamizar, a platform that provides network threat-discovery capability using behavior-based heuristics, machine-learning, and statistical techniques, is implementing continuous integration/continuous delivery (CI/CD) with automated testing. In order to achieve complete CI/CD, a backend storage solution that allows for the dynamic provisioning of storage across Docker containers is needed.

## Objectives and Approach

In building the backend solution, the following tools were utilized:

- Docker, a platform used to containerize and run different layers of the Tamizar stack (Elasticsearch, Analytics, Kibana)
- Kubernetes, a container orchestration tool used with Docker
- GlusterFS, a distributed network filesystem
- Heketi, a client providing APIs to dynamically provision and allocate GlusterFS storage to containers

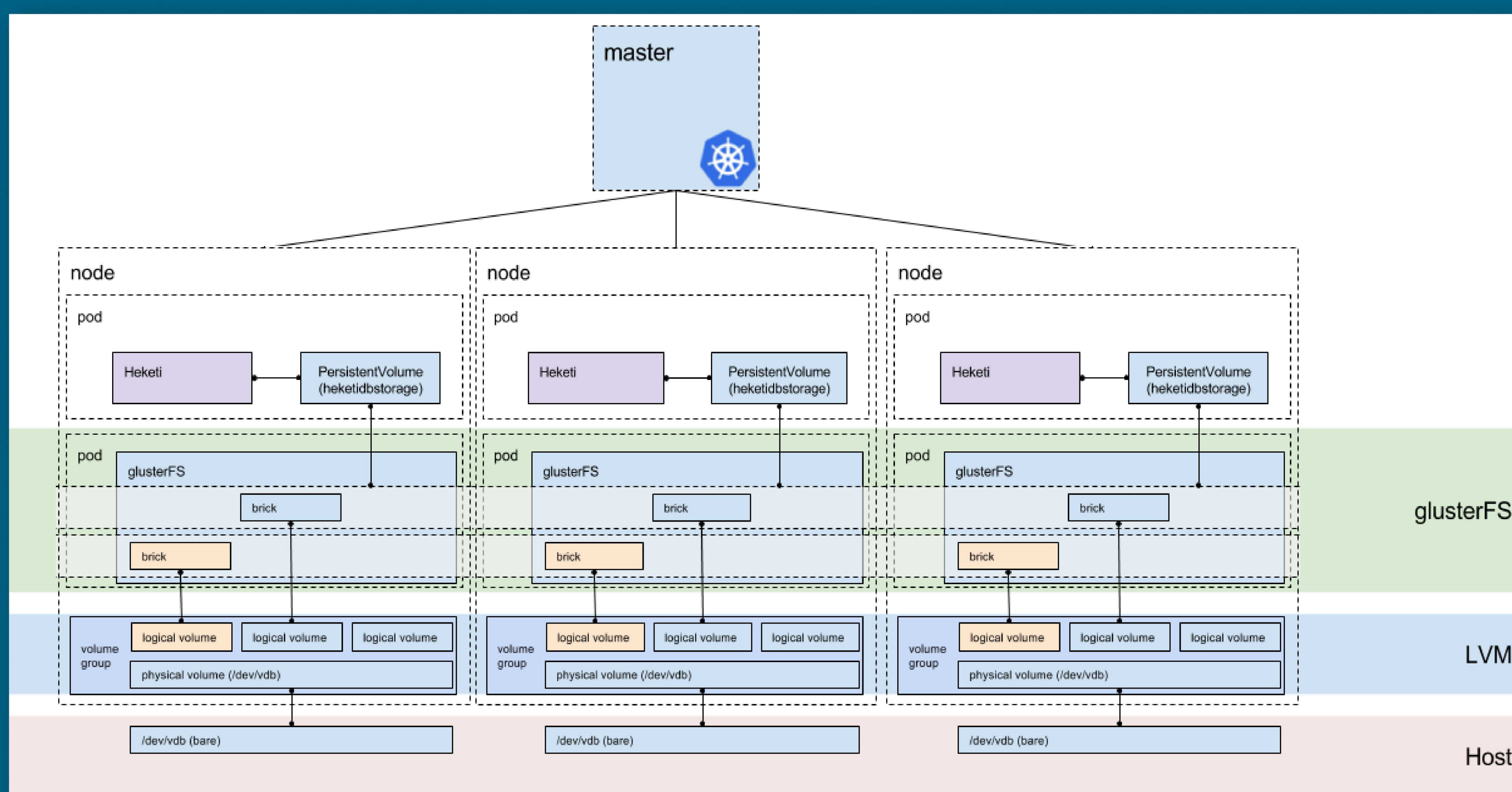
A successful solution will allow for the creation of Persistent Volume Claims (PVCs) by Tamizar Docker containers.

## Results

- Developed a prototype backend solution that enables the creation of PVCs on the GlusterFS nodes, allowing for dynamic provisioning and automated testing
- Further testing with the Tamizar stack will allow for optimization of the storage solution

## Impact and Benefits

- Allows for the creation of a CI/CD framework with automated testing
- Provides more detailed diagnostics through the ability to run automated checks across Tamizar test stacks
- Reduction of storage size constraints due to dynamic provisioning and freeing of storage claims upon completion of storage tasks
- Provides high scalability of the cluster through containerization and orchestration using Kubernetes



Picture Credit: Leif Madsen