## **HPC Documentation Consolidation & Modernization**

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# VOX VERITAS VITA STANISLAUS



### Objectives

We must gather documentation sources, unify them and deploy them in an easily navigable, portable, authenticated, version-tracked solution for our networks.

"Documentation: because in the future you won't remember how any of this works."

- Everyone

#### Methods

- Replaced all-in-one monolithic (VM) system with smaller, independent services.
- Set up automatic building and updating (CI/CD).
- Switched from older technology (Ruby Jekyll) to Golang Hugo (a faster tool) for creating our documentation site.
- Added request handling (Golang Echo webserver) with temporary storage (Redis).
- Created persistent storage (PVC).

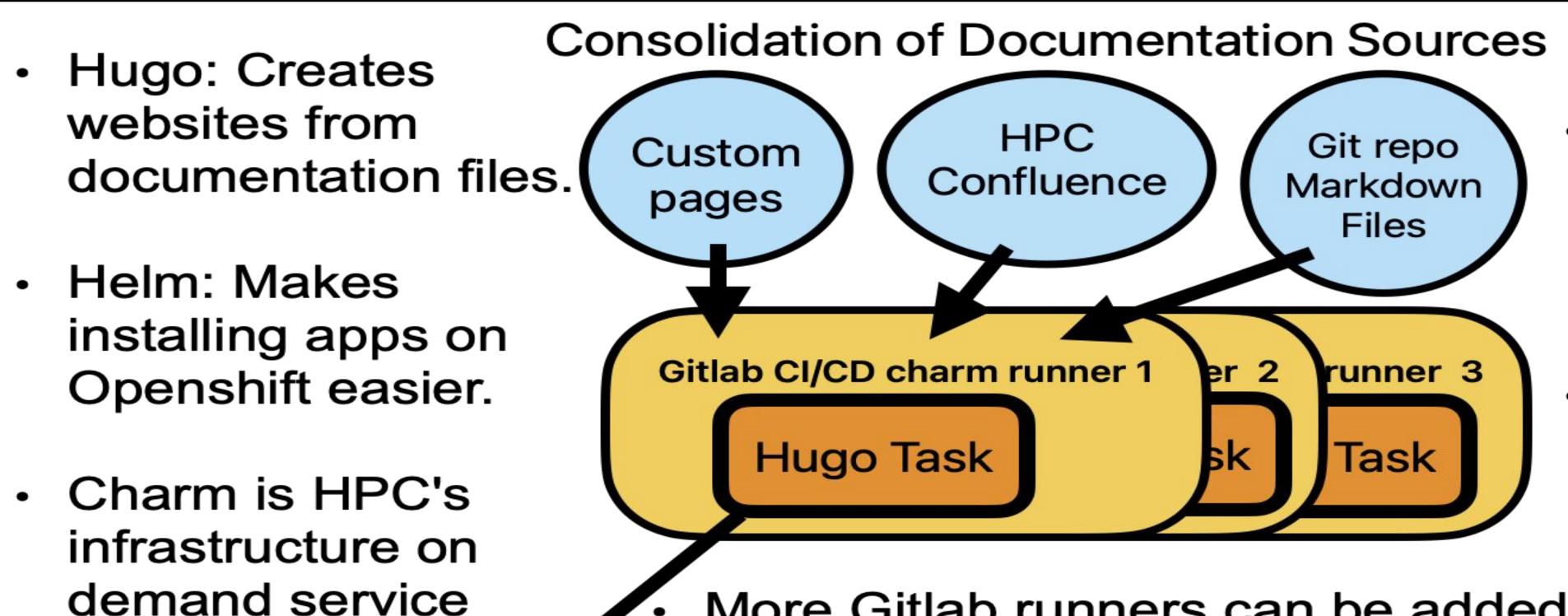
#### Results

- Eliminated single point of failure (VM)
- Automated Git workflows maintaining version synchronization.
- Enhanced stability & reliability
- Simplified maintenance

(Openshift).

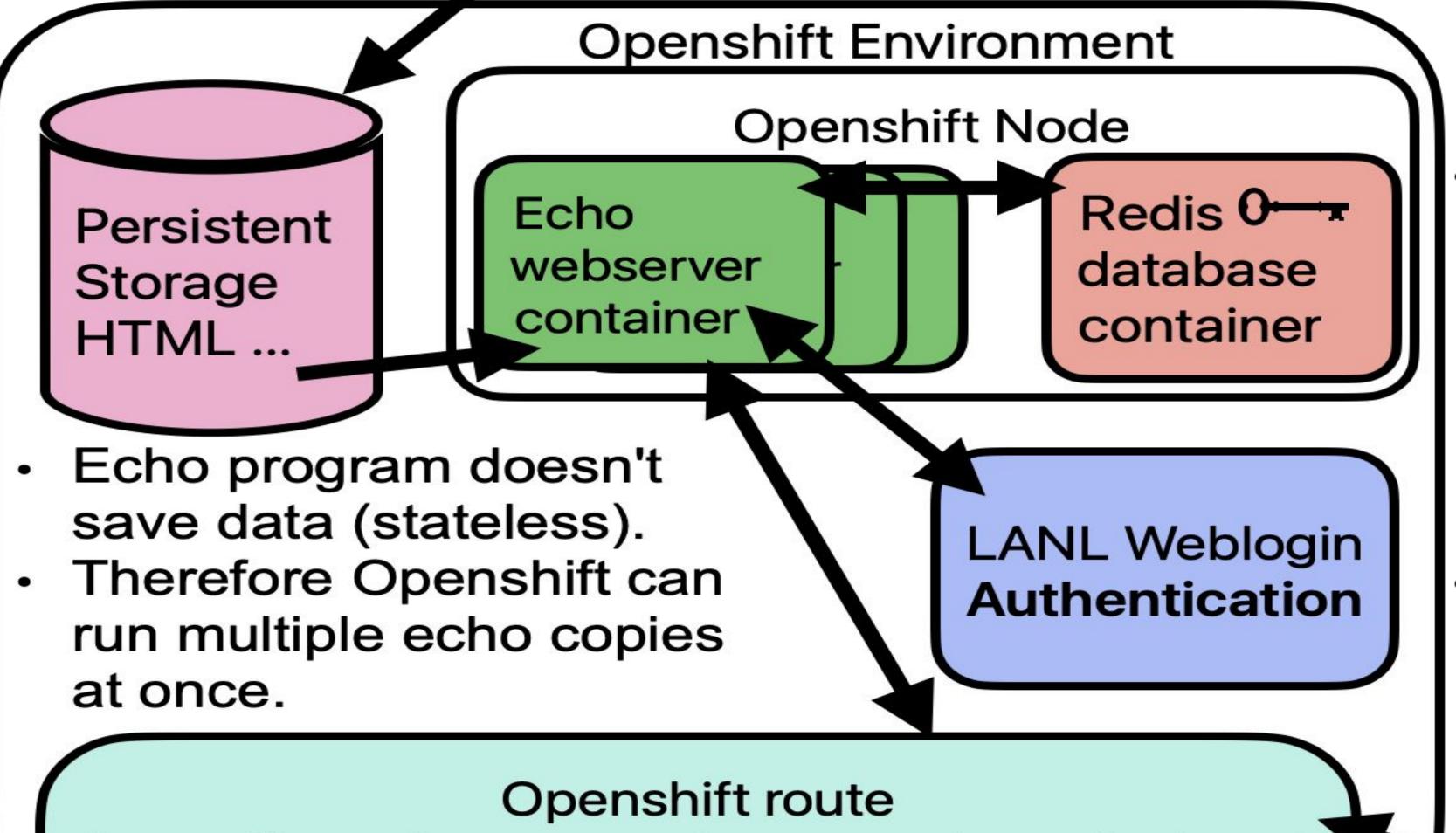
#### Future work

Integrate HPC documentation into the database powering LANL's HPC Al assistant. This assistant supports LANL HPC-related questions. i.e. "What is Chicoma?"



 More Gitlab runners can be added to speed up testing and updates.

- Code and documentation are saved in a git system that tracks changes.
- Containers: fast, light, consistent across environments, with good isolation and high density.



- Openshift (Red Hat's enterprise distribution of Kubernetes) lets you run your apps consistently across different environments.
- Redis stores temporary authentication tokens.
  - User visits route via a web browser.



https://hpc-documentation.apps.charm.lanl.gov/