One CSI plugin for All? Experimenting heterogeneous storage with single CSI plugin for Kubernetes

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Abstract:

Kuberetes is a popular and well grown container orchestration system available today. With the growing number of application deployment, the persistent volume aspect for the application has become one key area. Container Storage interface(CSI) is the popular and conventional way by which different backend systems provision the storage for kubernetes applications. So there are numerous CSI drivers available to get the particular storage systems glued to the containerized applications.So in an ecosystem with the presence of heterogeneous storage backends, managing the multiple CSI drivers for different storages is a challenge and also an opportunity at same time if one looks at it.

If we can manage the heterogeneous storage drivers through a single CSI plugin with Kubernetes, it will ease the overall management and configurations. We have done some experiments to have one CSI plugin to handle multiple existing CSI Drivers.

In this session, We will be showcasing how this is achieved, demo and advantages. We will also showcase the step forward to add multiple data management features (like snapshot, replication and more) from SODA Foundation (under Linux Foundation) open source projects along with CSI with this integration model.