



Preview: Streamline Connecting Data to Discovery Environment VICE Apps

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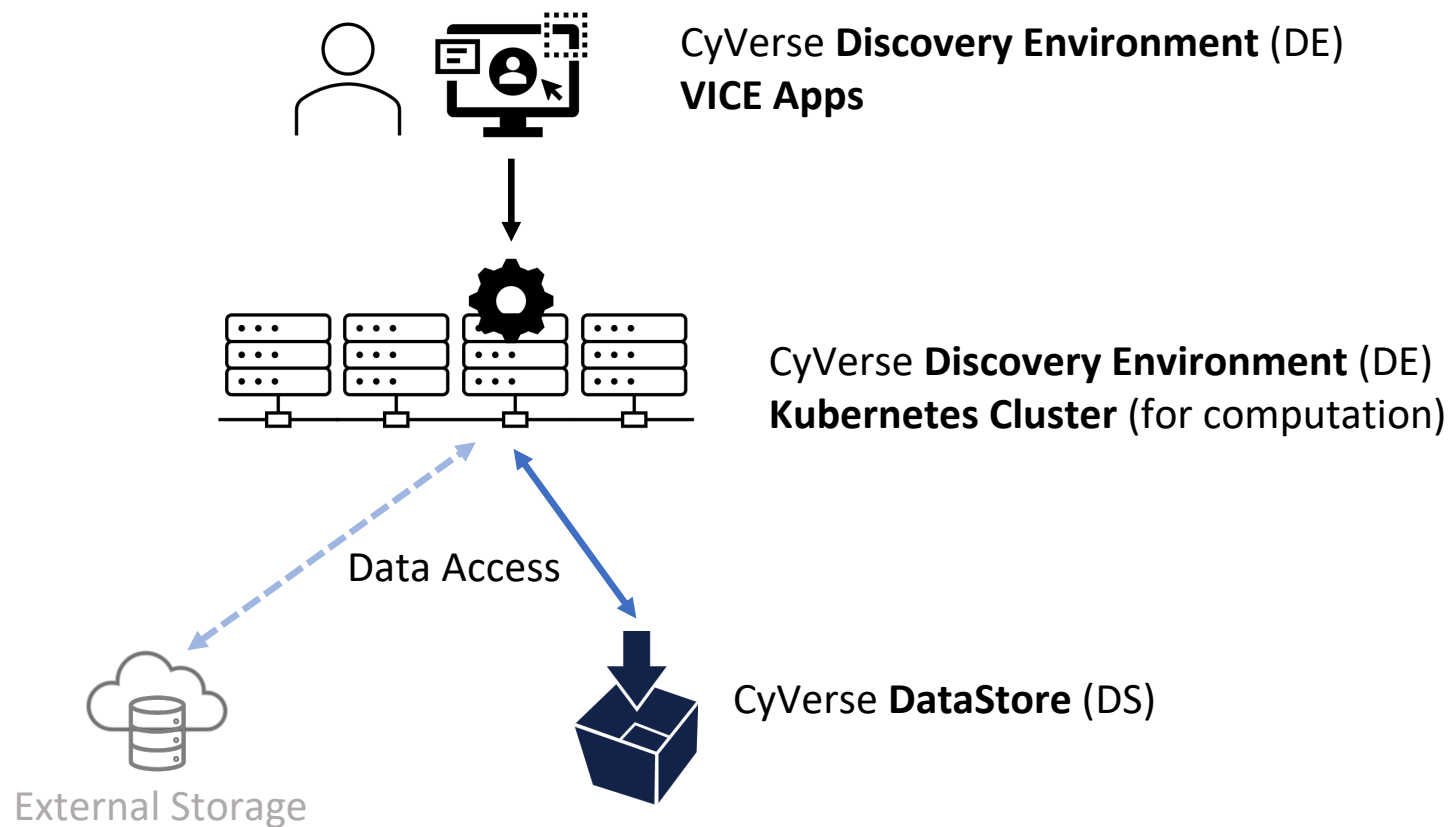
Cloud Native Services Team

Sarah Roberts

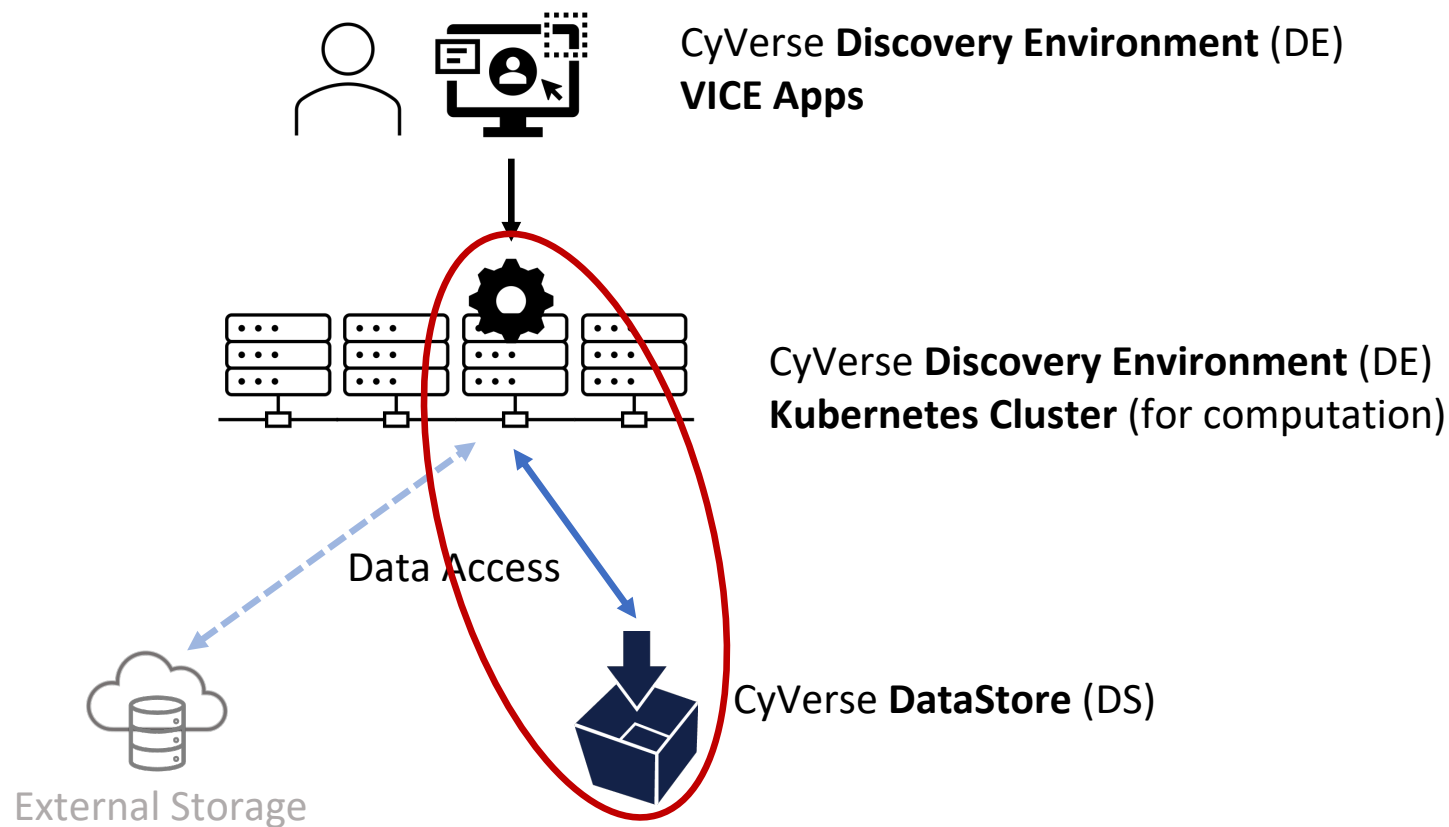
Core Software Team

Nov 19, 2021
CyVerse Webinar

How do Apps work in the DE?

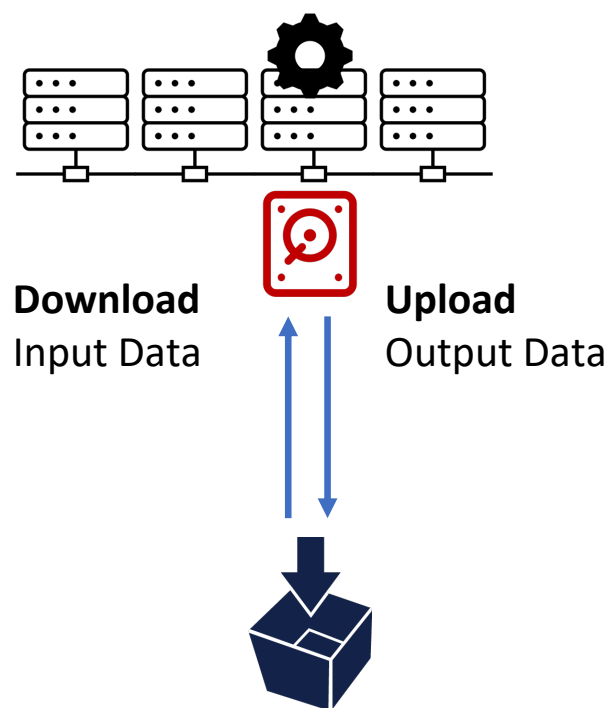


How do Apps work in the DE?



How do VICE Apps access the DataStore?

<BEFORE>

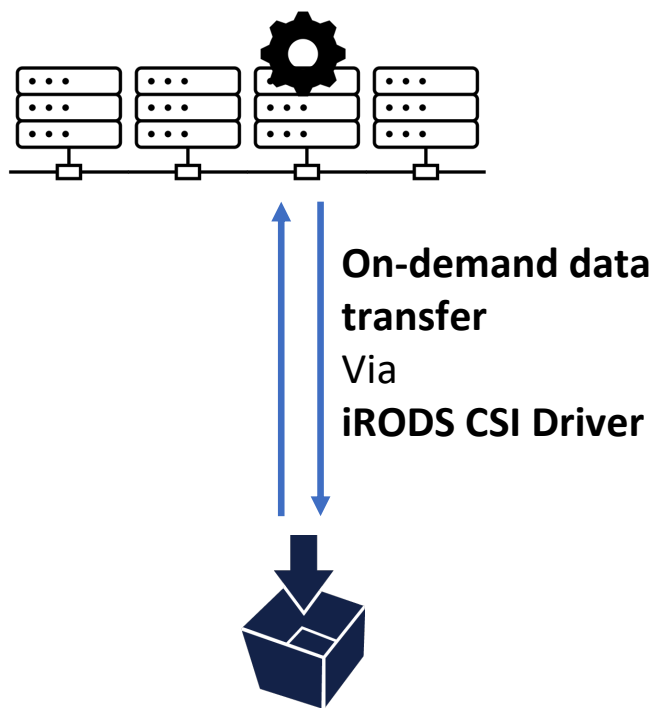


Drawbacks

- Users must wait until input data is completely staged before using apps
 - What if input data is very large?
- Users must know what input data they will use before they start apps
 - What if a user realized that he/she missed some data?

How will VICE Apps access the DataStore?

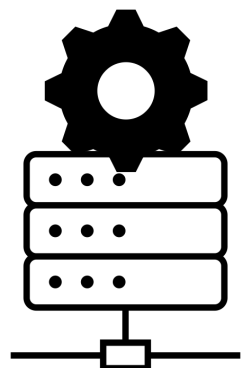
<With iRODS CSI Driver>



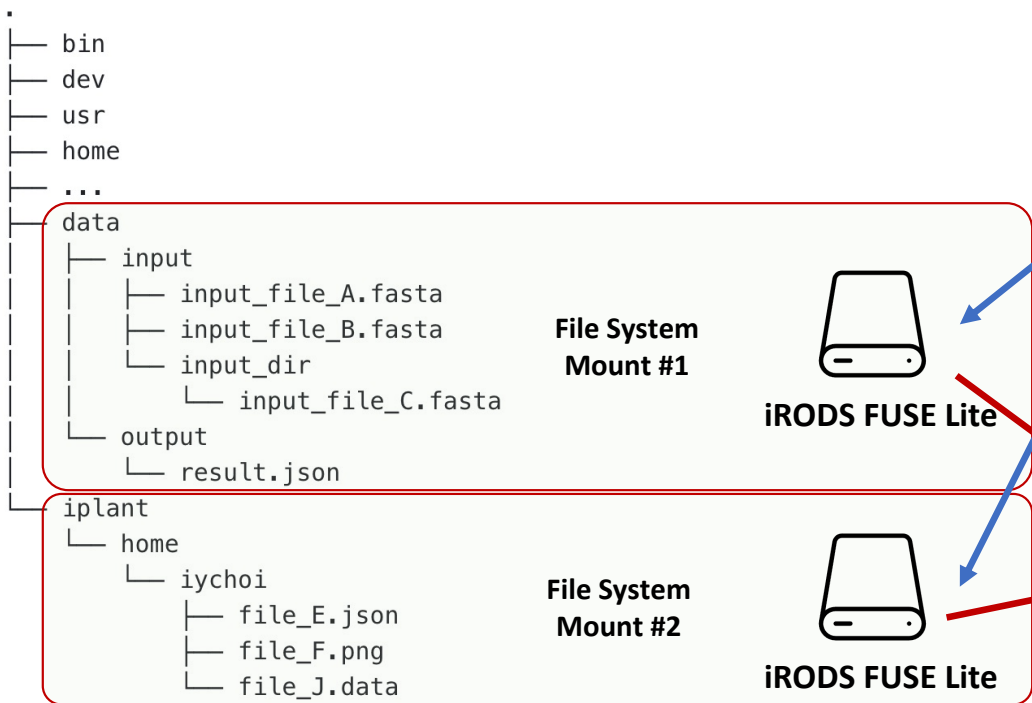
Advantages

- Does not require staging time for input data
 - Quicker launching time of apps
- Provides full access to your data on DataStore
 - Your home directory, community datasets, and ETC
- Makes output data visible/accessible immediately
 - Pipelining data processing

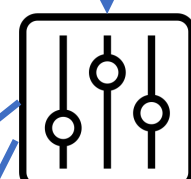
Under the hood



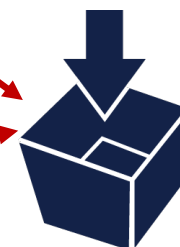
App Container's Directory hierarchy



CyVerse DE VICE



iRODS CSI Driver



CyVerse DS

Open-source projects



iRODS CSI Driver

- A Kubernetes Container-Storage-Interface Driver for iRODS (CyVerse DS)
- Access iRODS in Kubernetes
- GitHub: <https://github.com/cyverse/irods-csi-driver>



iRODS FUSE Lite

- A Filesystem Client for iRODS (CyVerse DS)
- Access iRODS in any Linux system (Laptop, JetStream, AWS...)
- GitHub: <https://github.com/cyverse/irodsfs>

Roadmap



Production deployment

- Expected **2022 Q1**



Upcoming features

- Improve I/O performance via ***parallel data transfer***



DEMO