SciServer: Bringing Analysis Close to the Data

idies — The Institute for Data Intensive Engineering and Science

JOHNS HOPKINS UNIVERSITY

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TEAM

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- **Technical:** Dmitry Medvedev, Manu Popp, Jai Won Kim, Sue Werner, Victor Paul, Jan Vandenberg, Lance Joseph, Alainna White, Laszlo Dobos
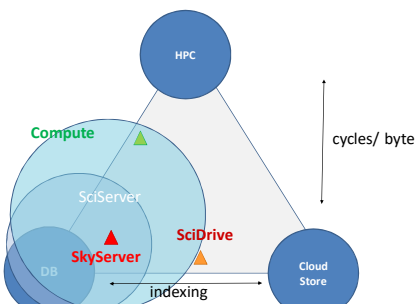
History & Motivation

- Started with the SDSS SkyServer
- <u>Goal</u>: instant access to rich content
- <u>Idea</u>: bring the analysis to the data
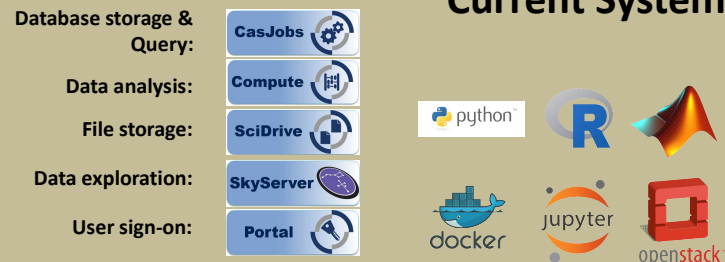- Interactive access at the core

Where are we Going

- Interactive science on petascale data
- Create scalable open numerical laboratories
- Large footprint across many disciplines
- Use commonly shared building blocks
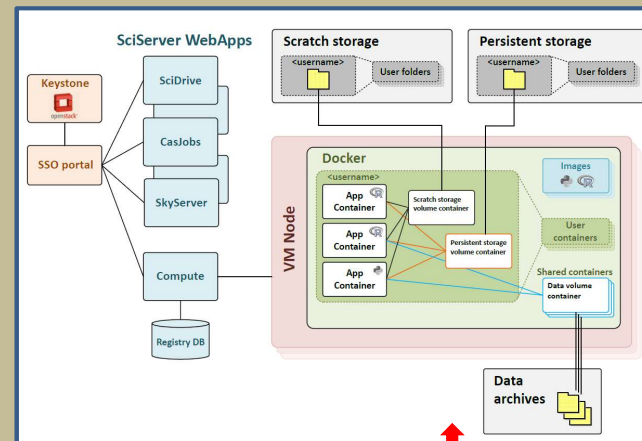- Major national and international impact
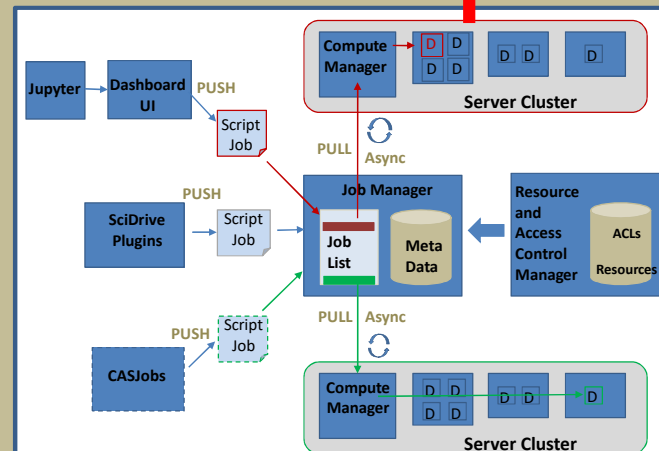
System Balance

Technology:

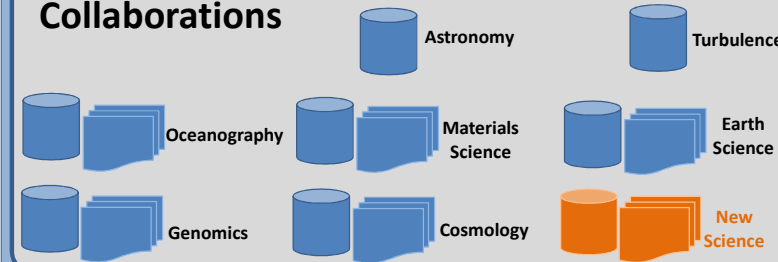### Current System

Database storage & Query:	CasJobs
Data analysis:	Compute
File storage:	SciDrive
Data exploration:	SkyServer
User sign-on:	Portal

(python, R, MATLAB, docker, jupyter, openstack)

Compute

Compute Job Scheduling

Science:

Collaborations

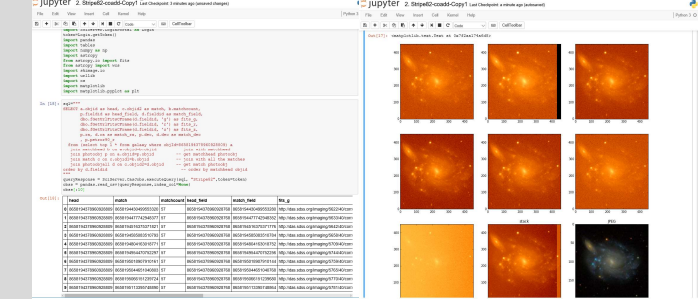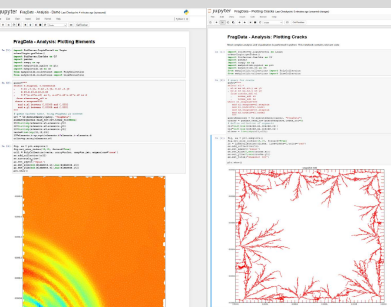Astronomy, Turbulence, Oceanography, Materials Science, Earth Science, Genomics, Cosmology, New Science

Applications

Earth Science
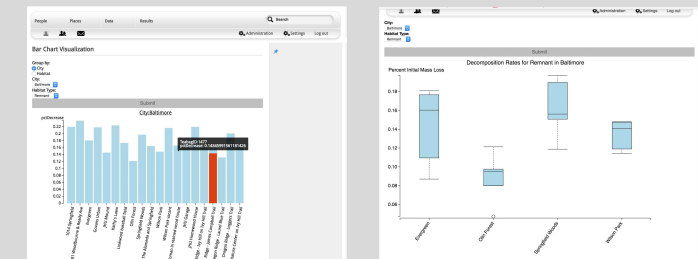
Astronomy

Materials Science

Turbulence