

CANFAR: The Canadian Advanced Network for Astronomy Research

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CANFAR is an integrated cloud ecosystem that supports the entire data life-cycle from ingestion of observatory data to publication of final data products. It supports curation and long-term preservation of data. It provides user-managed storage resources and access to batch cloud processing and interactive and persistent virtual machines to support science use and service support. Authentication and authorization services glue together these components into an integrated whole. CANFAR manages 2.2 Petabytes of data, serves over five thousand astronomers worldwide, moves over a Petabyte of data per year across the network.

The International Virtual Observatory Alliance (IVOA) has worked for over a decade to create standards to enable global interoperability of astronomy services. But this work focused primarily on data services. The world has moved on. Big Data resources need to be integrated with processing and other capabilities and shared cyberinfrastructure seems to be the only way to achieve the scalability that we need. IVOA is poised to begin to broaden its approach to interoperability to include the integration of data with other capabilities.

The major success stories of data-intensive research infrastructure in astronomy (and other domains) have been driven by development by scientific-technical teams with a high level of domain expertise. How will this development and delivery model translate into a future of shared research infrastructure?

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Session Classification: Astronomy and astrophysical large experiments and e-infrastructure - new frontiers