



Rucio within the Open Science Grid

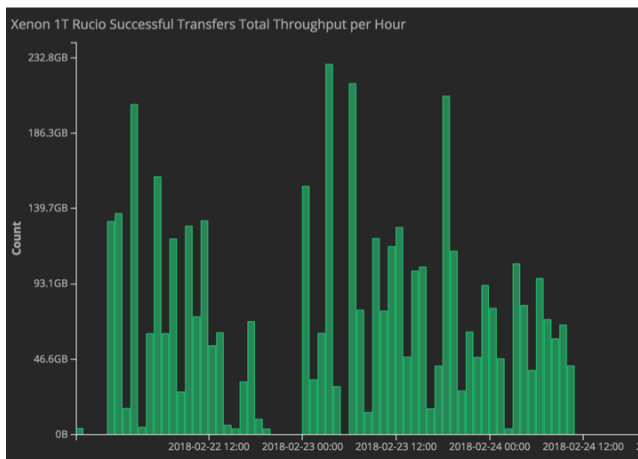
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- OSG Engagement with Rucio started with XENON1T being in need to transfer its data from EU to US.

Experiment	Rucio Instance	DB Location	DB Type	Support
XENON1T	rucio-xenon.grid.uchicago.edu	192.170.227.247	MariaDB	UChicago

A production service that XENON1T relies on now for quite some time.



Steady transfers from LNGS to disks at UChicago, CCIN2P3, NIKHEF, and SURFSARA

- **December 8th 2017**: Internal OSG meeting to educate ourselves on Rucio and the XENON1T experience with Rucio.
- **January 16th 2018**: OSG facilitates meeting between LIGO, IceCube, Dune, CMS and Rucio developers.
- **Decision to go forward with evaluations where OSG hosts teststands at U. Chicago for anybody who wants to evaluate Rucio.**

From one success to many evaluations

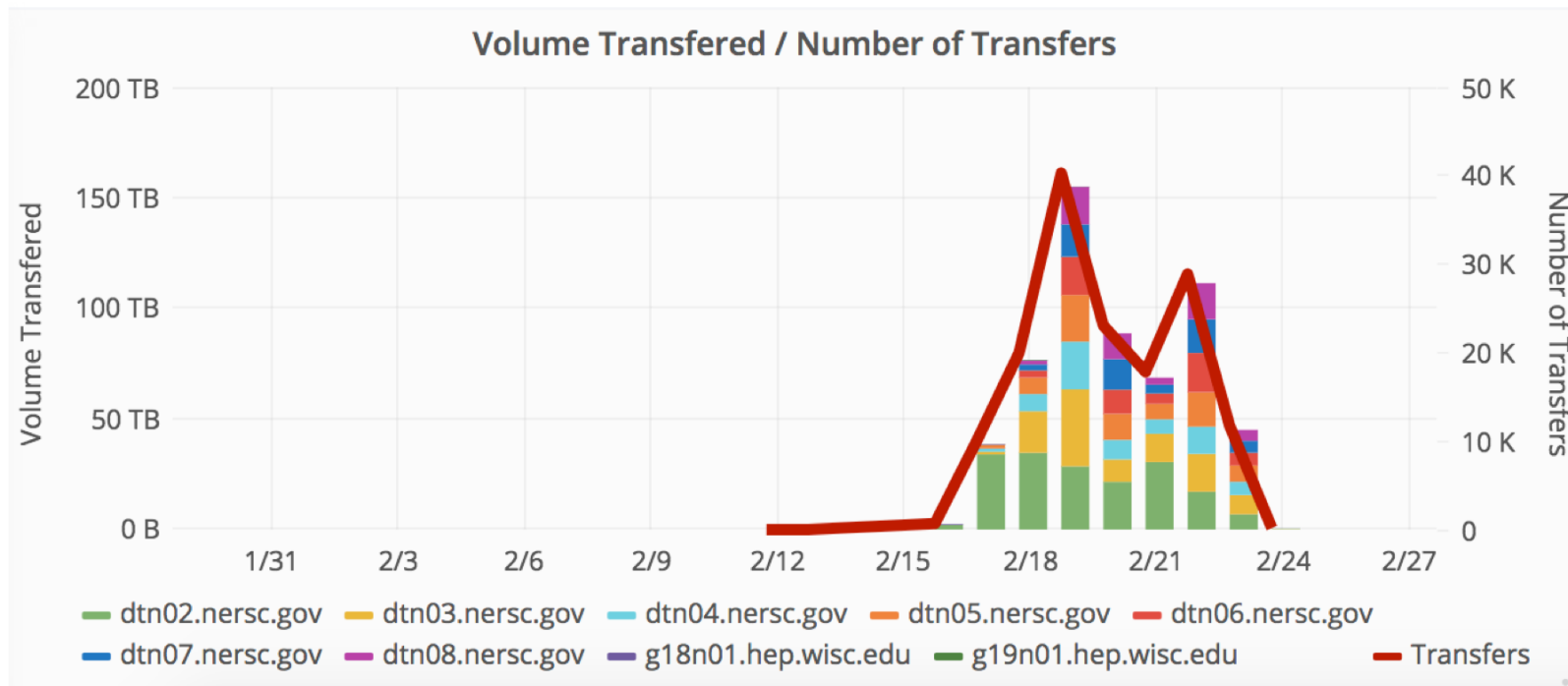
- Deliberately spreading “Support” across multiple institutions (UChicago, UNL, UCSD) to create depth of expertise in OSG.

Experiment	Rucio Instance	DB Location	DB Type	Support
CMS	rucio-cms.grid.uchicago.edu	10.1.120.47 (UChicago OpenStack)	PostgreSQL	UNL, FNAL, UChicago
IceCube	rucio-icecube.grid.uchicago.edu	10.1.120.47 (UChicago OpenStack)	PostgreSQL	UCSD, UNL, UW-- Madison, UChicago
LIGO	rucio-ligo.grid.uchicago.edu	10.1.120.47 (UChicago OpenStack)	PostgreSQL	Georgia Tech, UNL, UChicago
LSST	rucio-lsst.grid.uchicago.edu	10.1.120.47 (UChicago OpenStack)	PostgreSQL	NCSA, UChicago

LIGO, IceCube, and CMS are actively using their test infrastructure as you have heard from the previous talks.

LSST is still sitting on the fence. Others have expressed potential interest.

- E.g. the transfer of PU data for CMS to NERSC via Rucio below.



The peak day corresponds to ~14Gbps sustained for the day.
As you can see, multiple DTNs were used at NERSC.

- Be a center of knowledge, expertise, and effort to help communities evaluate Rucio.
 - **OSG advises** interested communities in the value and issues before an evaluation starts.
 - **OSG hosts the service** during the evaluation.
 - **OSG helps community execute the evaluation**, with an understanding that the community will operate the service themselves long term if they adopt Rucio.
- **OSG considers operating a Rucio service** for communities that don't have the means to do it themselves.

- OSG operates CVMFS for multiple communities.
- OSG operates provisioning system (gFactory) for a dozen communities.
- OSG operates HTCondor pools for several communities, including one open for all of science.
- OSG operates a Data Federation (Xrootd) for multiple communities, including multiple shared caches across the US and one in EU.

**It's not unusual for OSG to
operate services for communities.**

Questions ?