



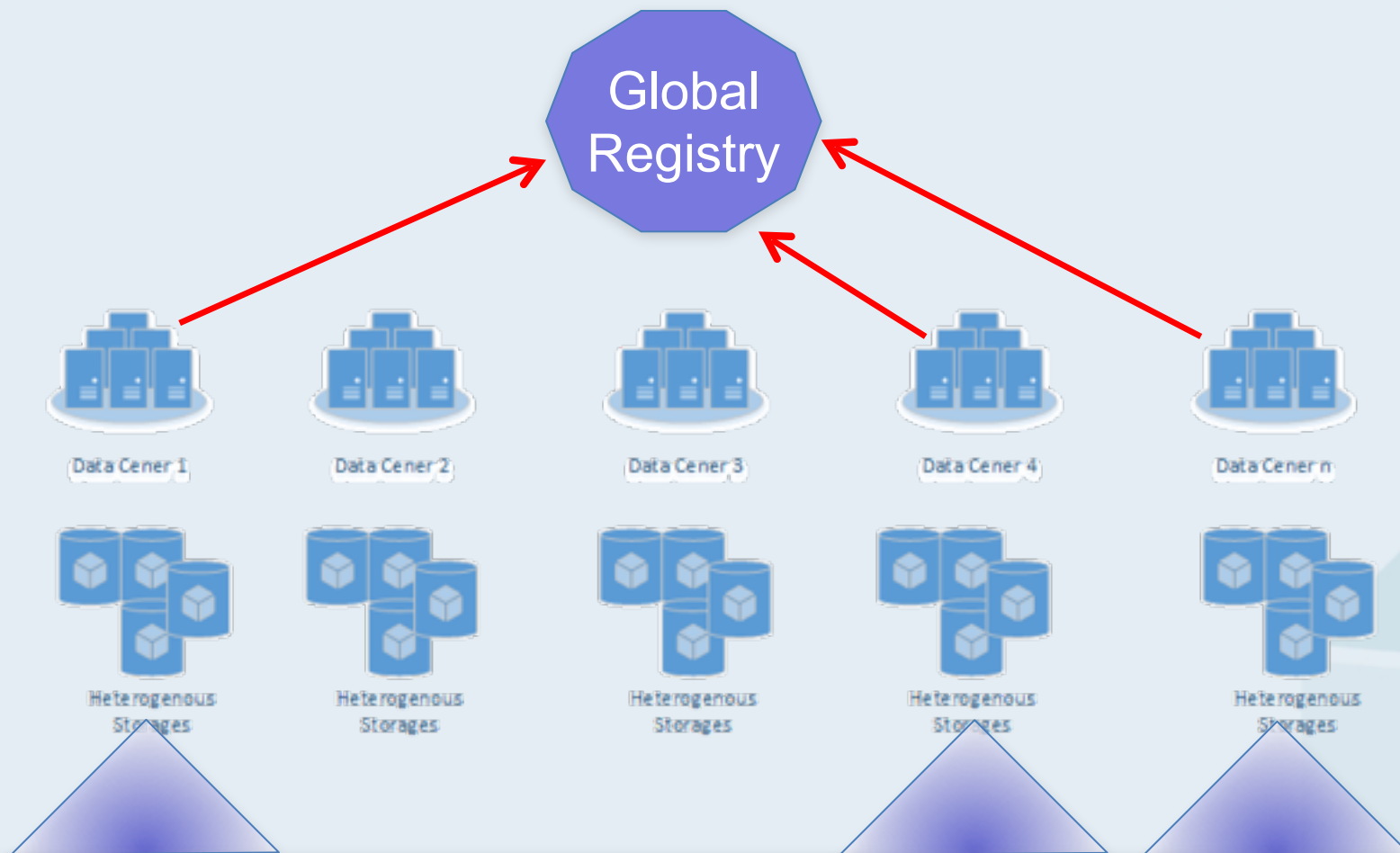
# Globalization of Data Access on Computing Infrastructures

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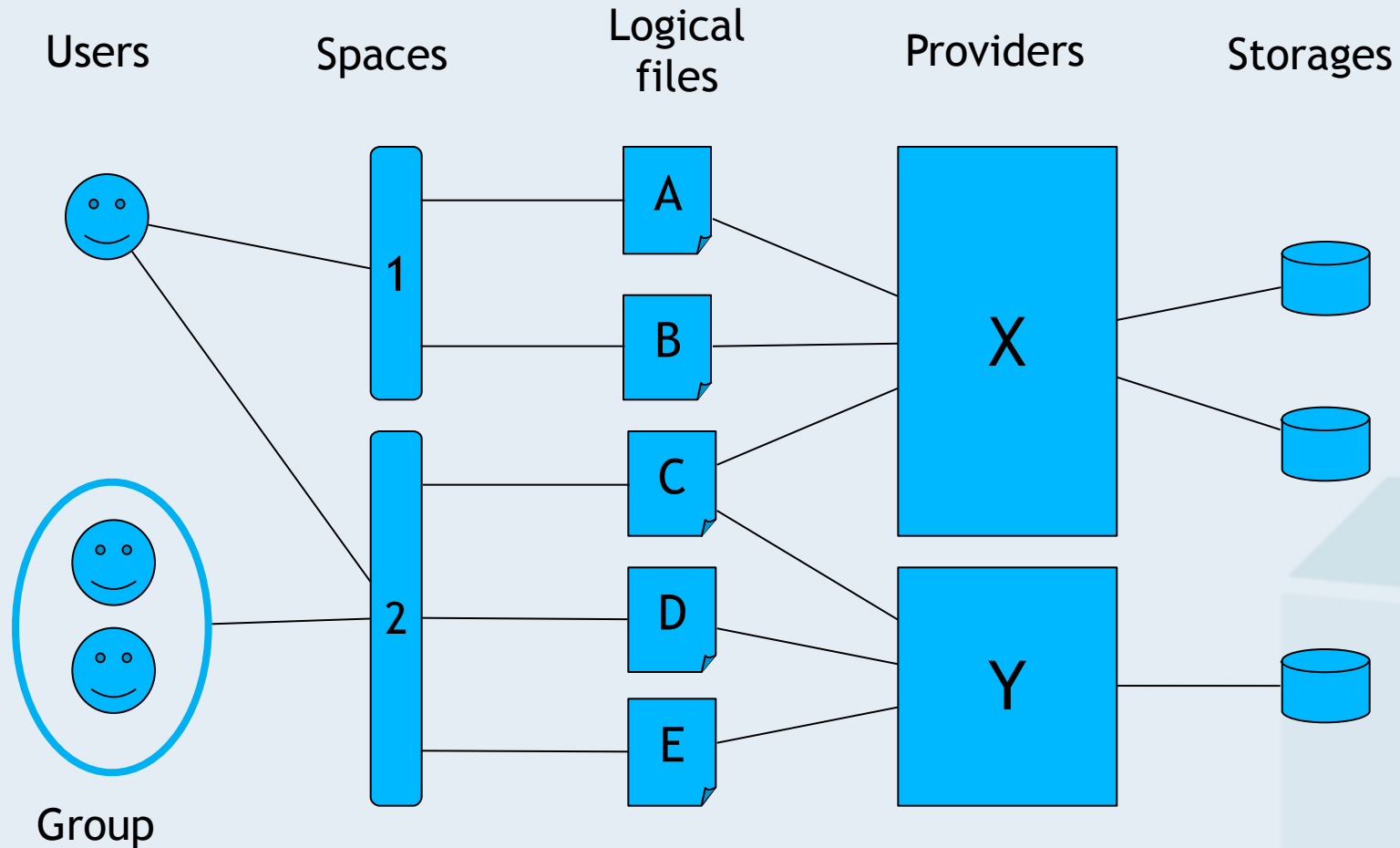
# onedata – System Overview



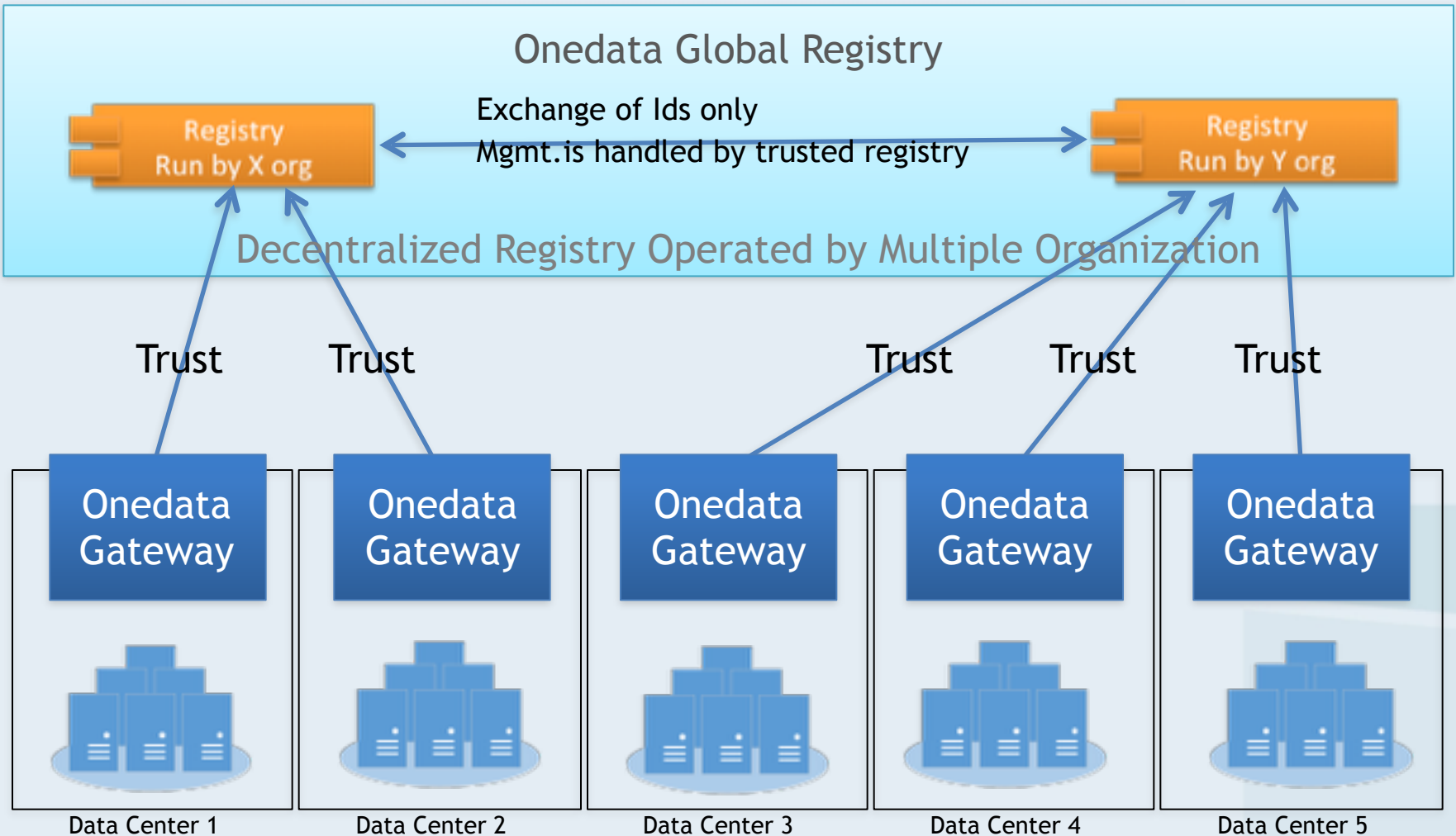
onedata globally unified space for User1 provided by many DCs



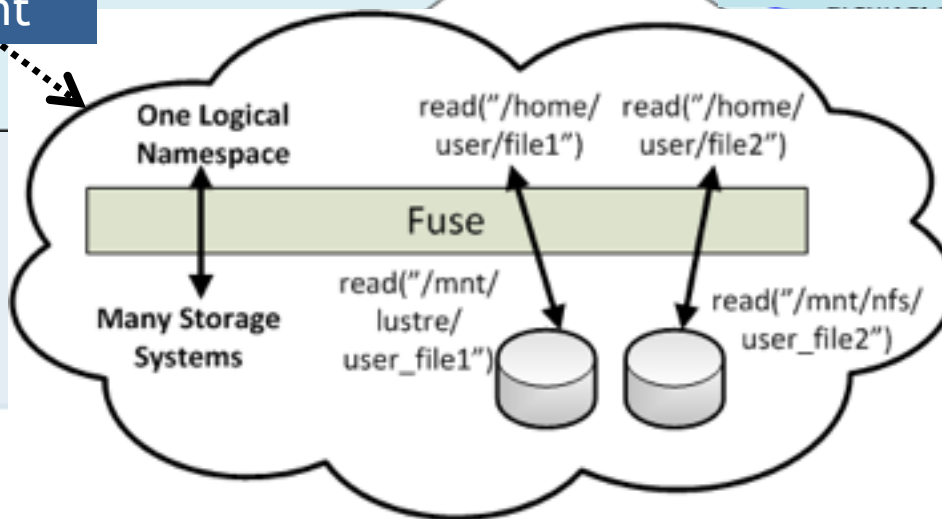
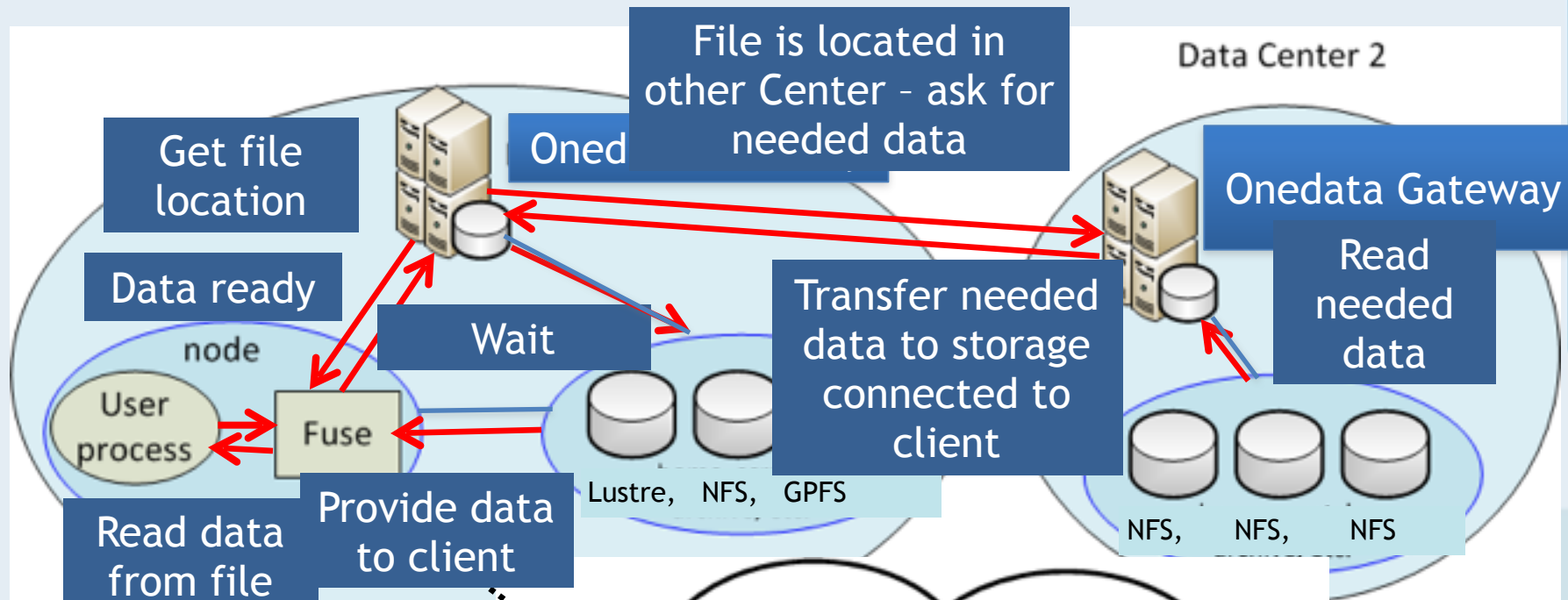
# onedata – Files Organization



# Onedata Global Deployment



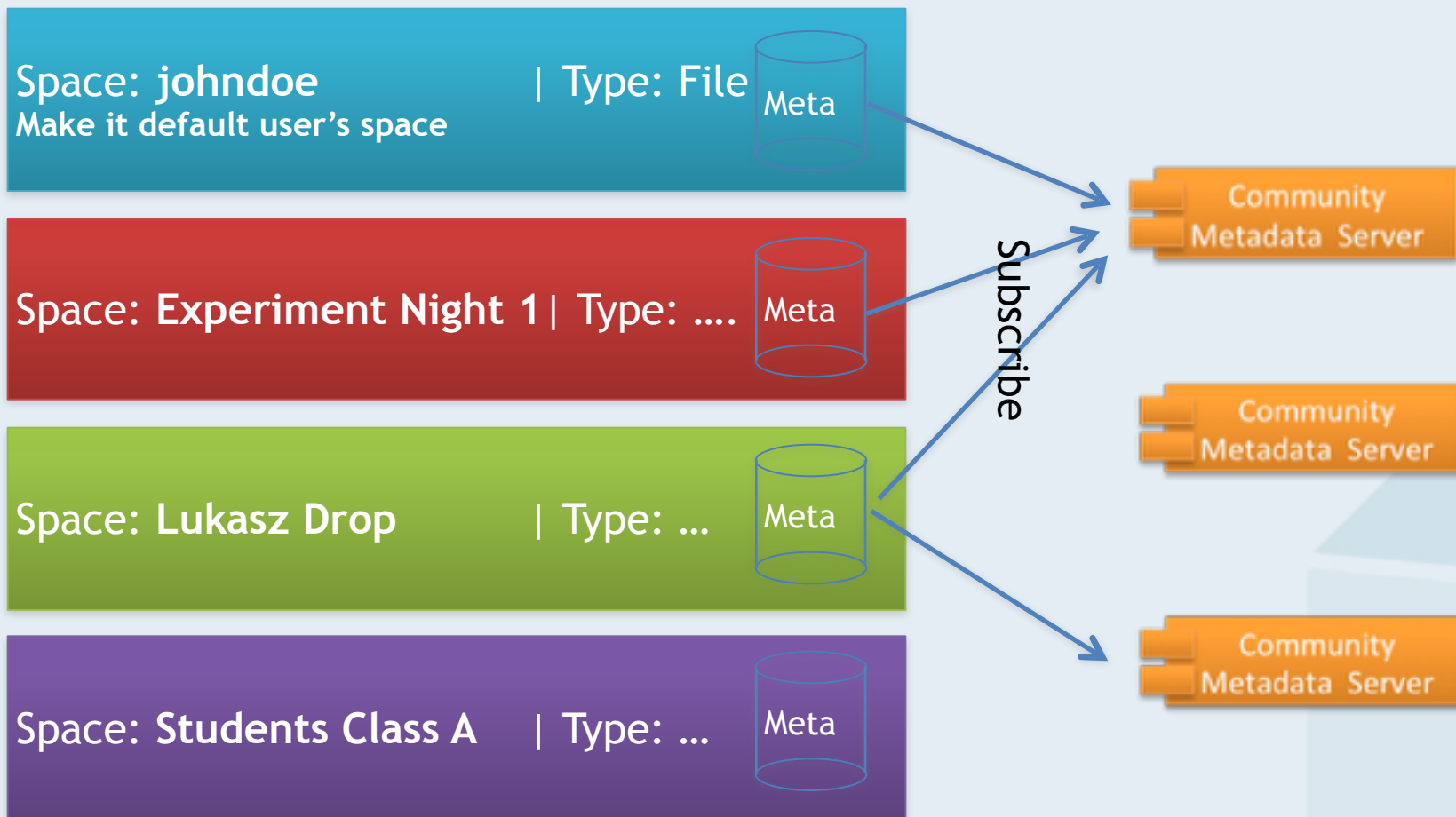
# Virtualized Storage



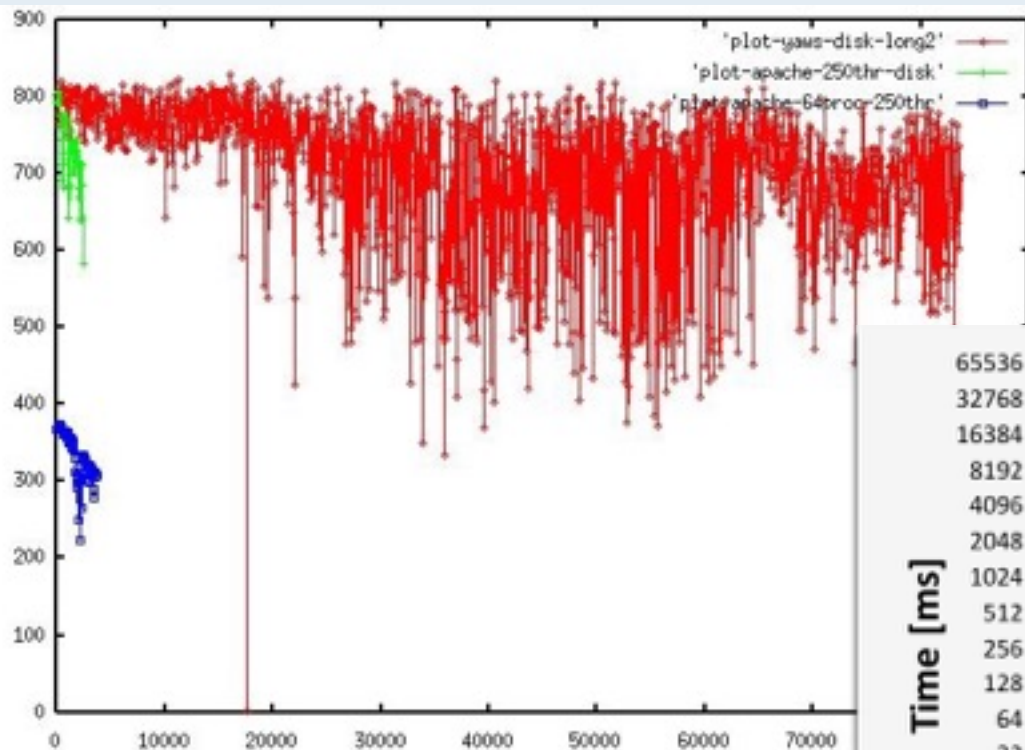
# Metadata in Spaces



Metadata container - JSON Docs



# Onedata - Performance



No of sessions supported by server  
Apache and Yaws (Erlang)



# GPFS Write Test Results



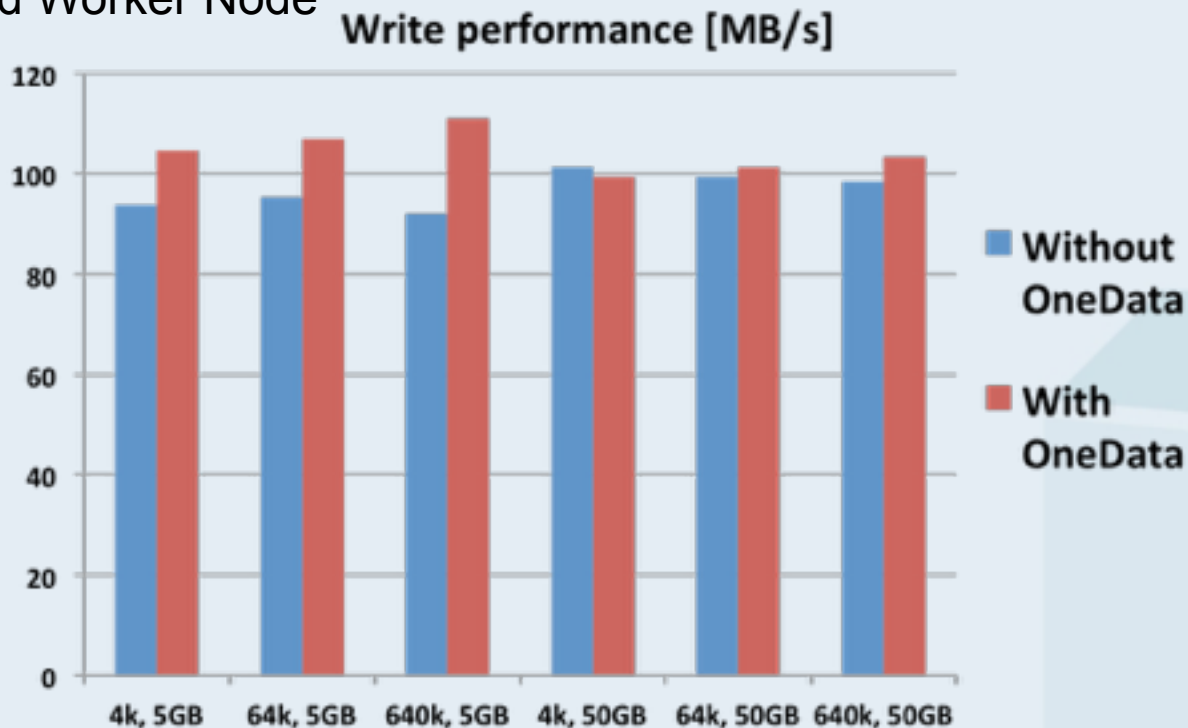
Write performance depending on block size and amount of data written

TestBed:

- Cyfronet's production GPFS

- Multi-core machine for OneData Server and DB

- Client at Grid Worker Node





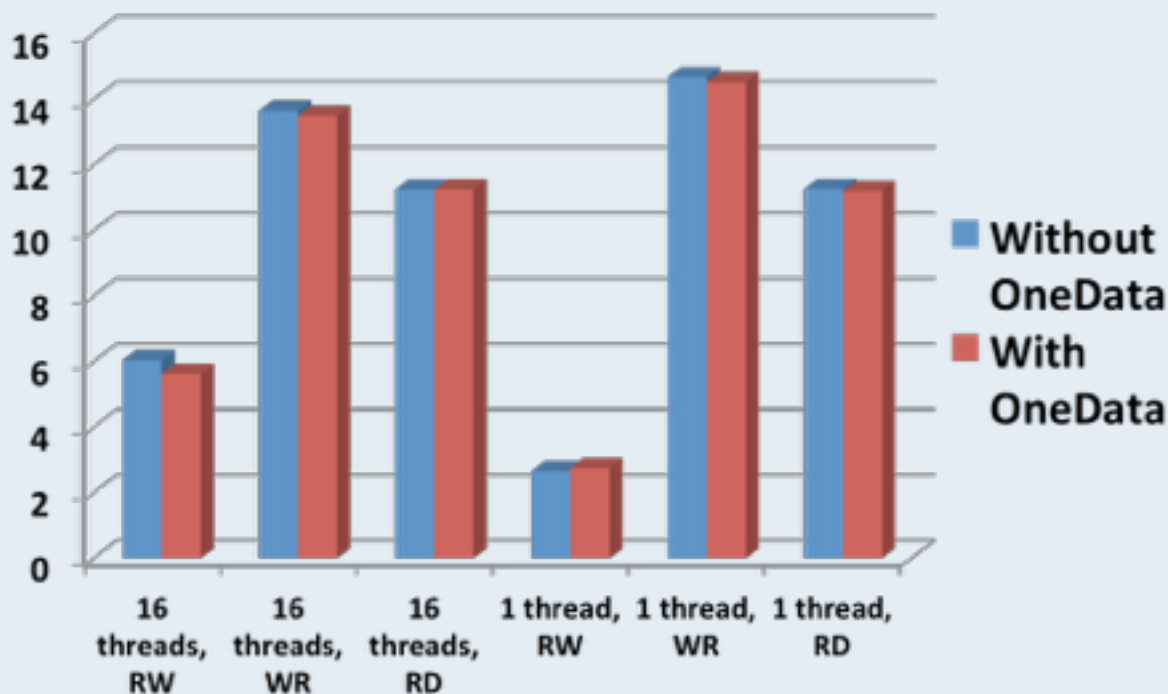
# SysBench Results



## Cloud TestBed:

- 4 virtual machines: OneData server, DB server, NFS server, OneData client
- Each machine only 1 core, 0.5GB RAM

Transfer rates measured by SysBench [MB/s]



# Notice



- Onedata is designed to work with very small systems:
  - One PC with storage
  - Low memory footprint
- but can be scalable to very large scale systems:
  - Storages working with GigaBytes/s
  - Storages at PetaBytes capacity
  - PetaFlops computation power solutions (tens of thousands of cores)
  - 40 Gb/s network Infiniband connectivity
  - 10-100 Gb/s WAN network connectivity





# Thank you

