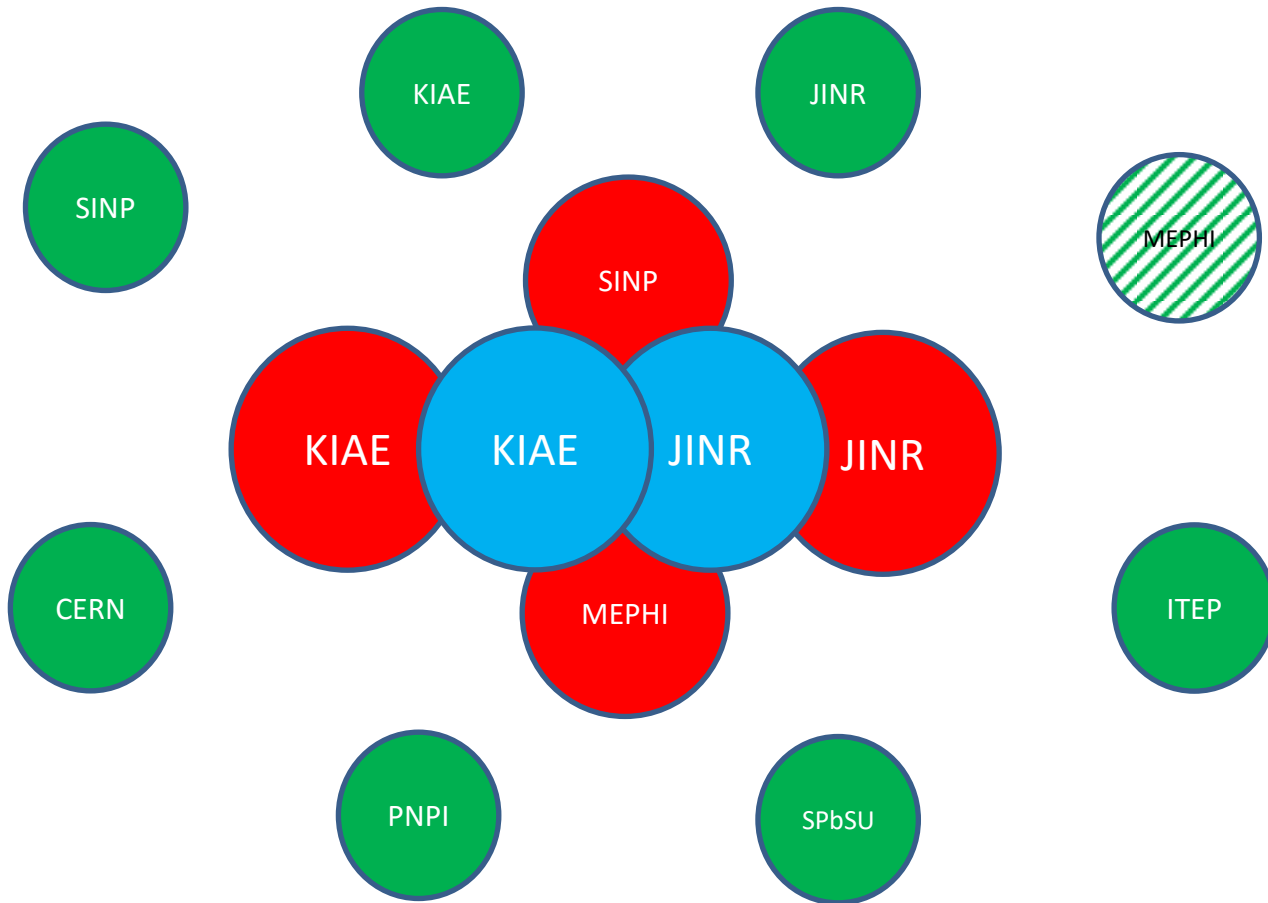


Federated Storage tests on two federations

Main testbed

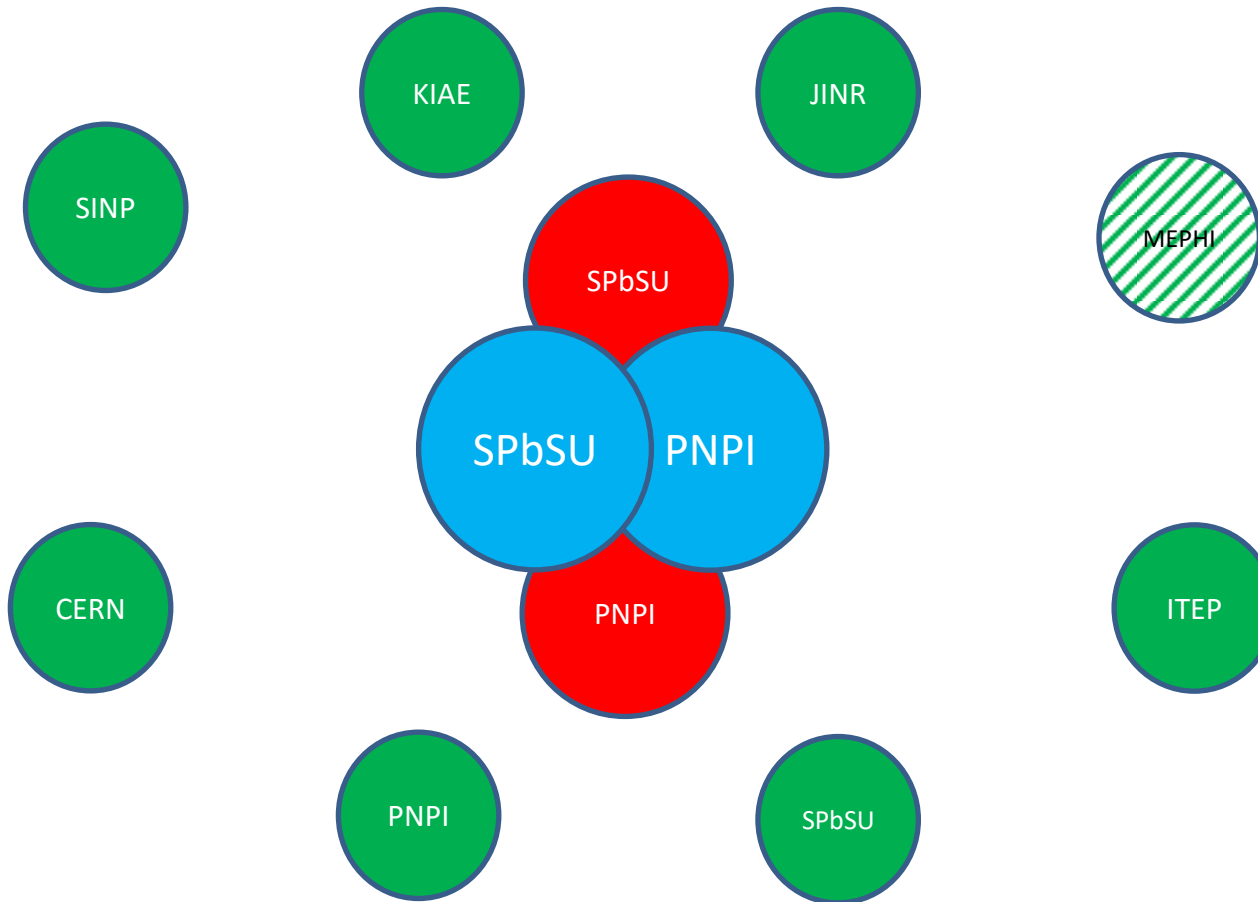


MGM - manager

FST – File server

UI - Client

Second testbed



MGM - manager

FST – File server

UI - Client

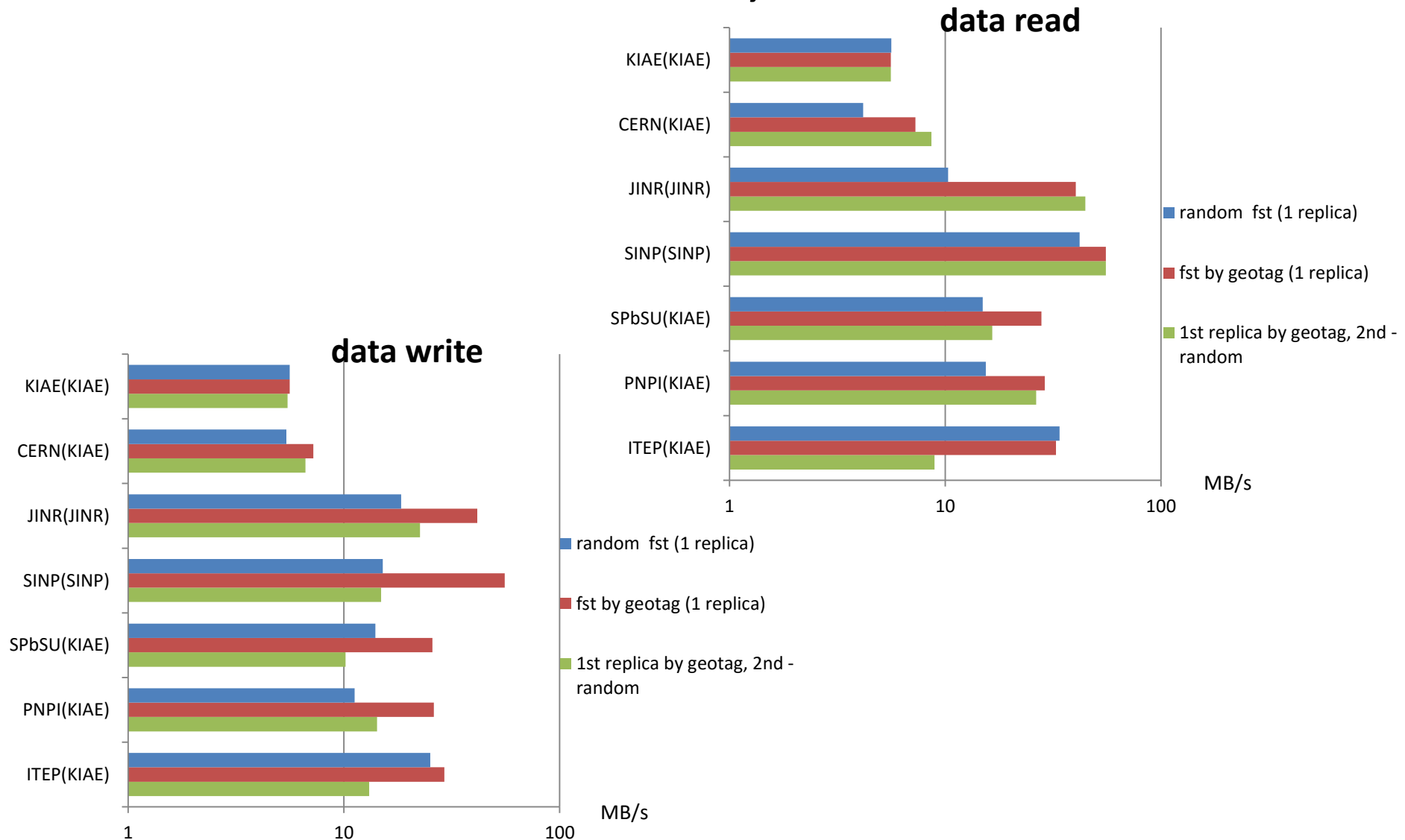
Replicas and geotags

- Desired scheme:
 - Read the closest replica first (by geotag)
 - Write two replicas: first one on a closest FST, second one on a T1 (reliable) FST.
- EOS implementation:
 - *Hybrid* placement policy allows first replica to be placed on a closest FST and the second one “scattered” to a random FST.
 - EOS developers think that our desired scheme makes perfect sense.
- Currently we have 3 schemes:
 1. No geotags, random placement
 2. No replicas, but with geotags. Write to FST with geotag matching the UI. If UI have no geotag, default is used (KIAE).
 3. Two replicas with geotags. 1st replica on a closest FST , 2nd on a random FST.

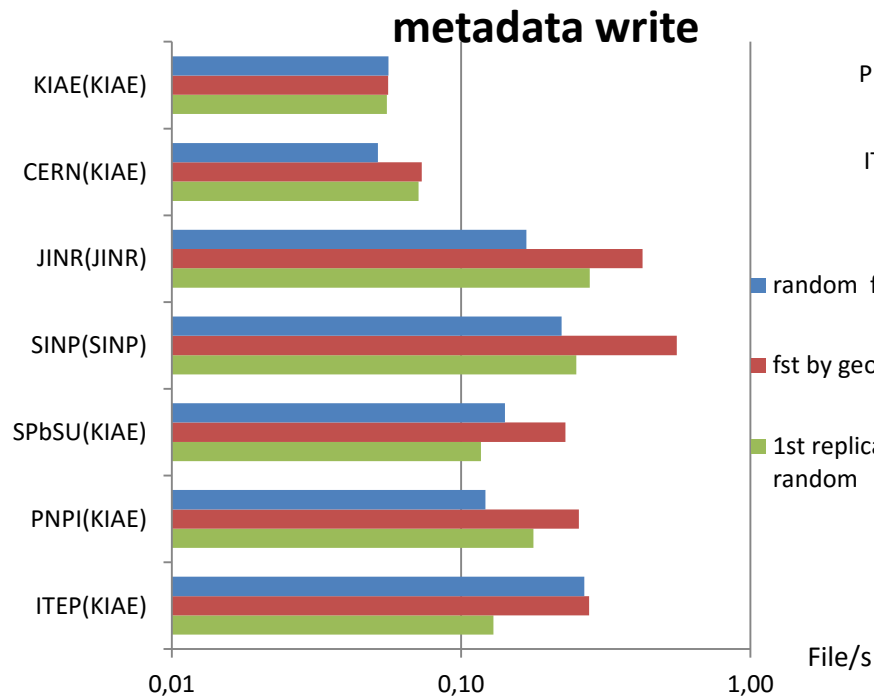
Tests

- `xrdstress` – from *eos-test* package. Pretty fast, no FUSE dependency. No docs, but we know the developer (Elvin). Produced metric is somewhat questionable.
- `Bonnie++` – classic and reliable, takes long time to run, needs FUSE.
- Experiments tests (in progress) – ALICE and ATLAS

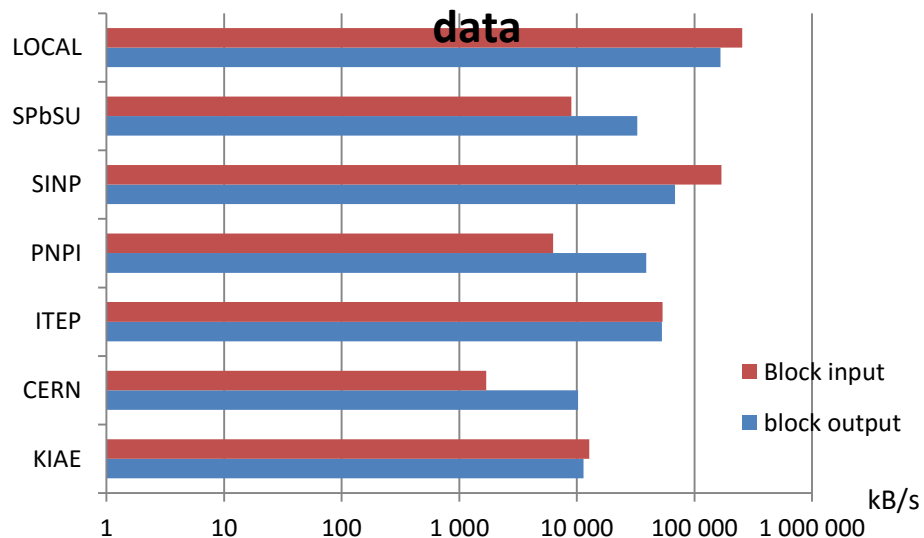
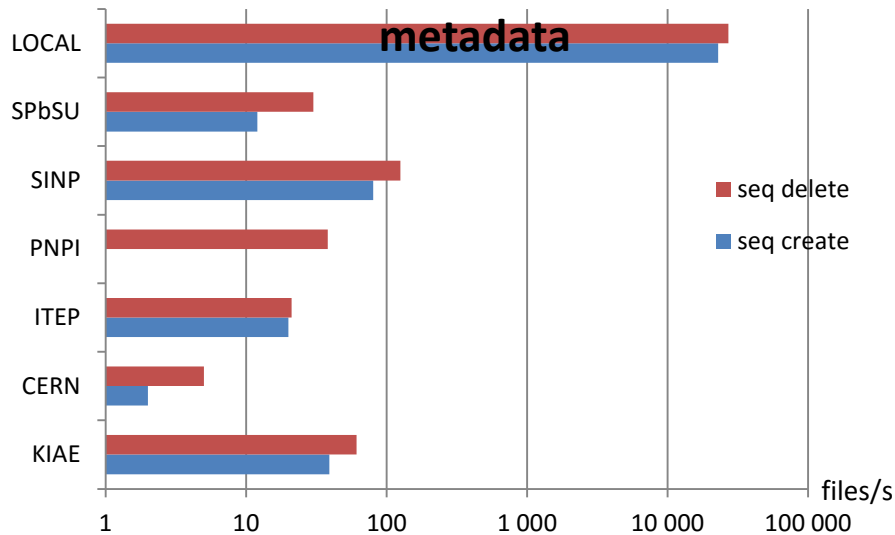
Test results – xrdstress on main testbed, data



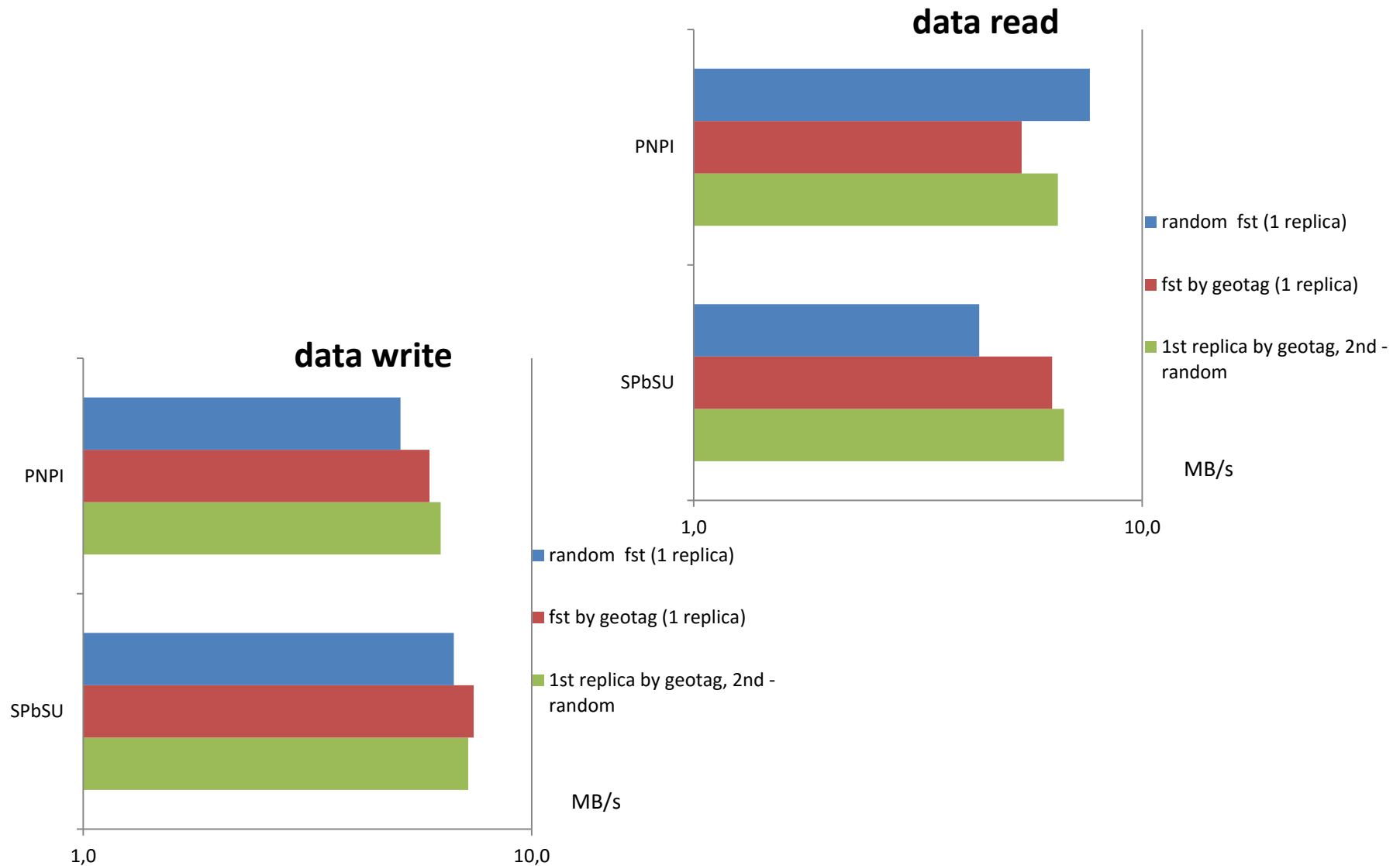
Test results – xrdstress on main testbed, metadata



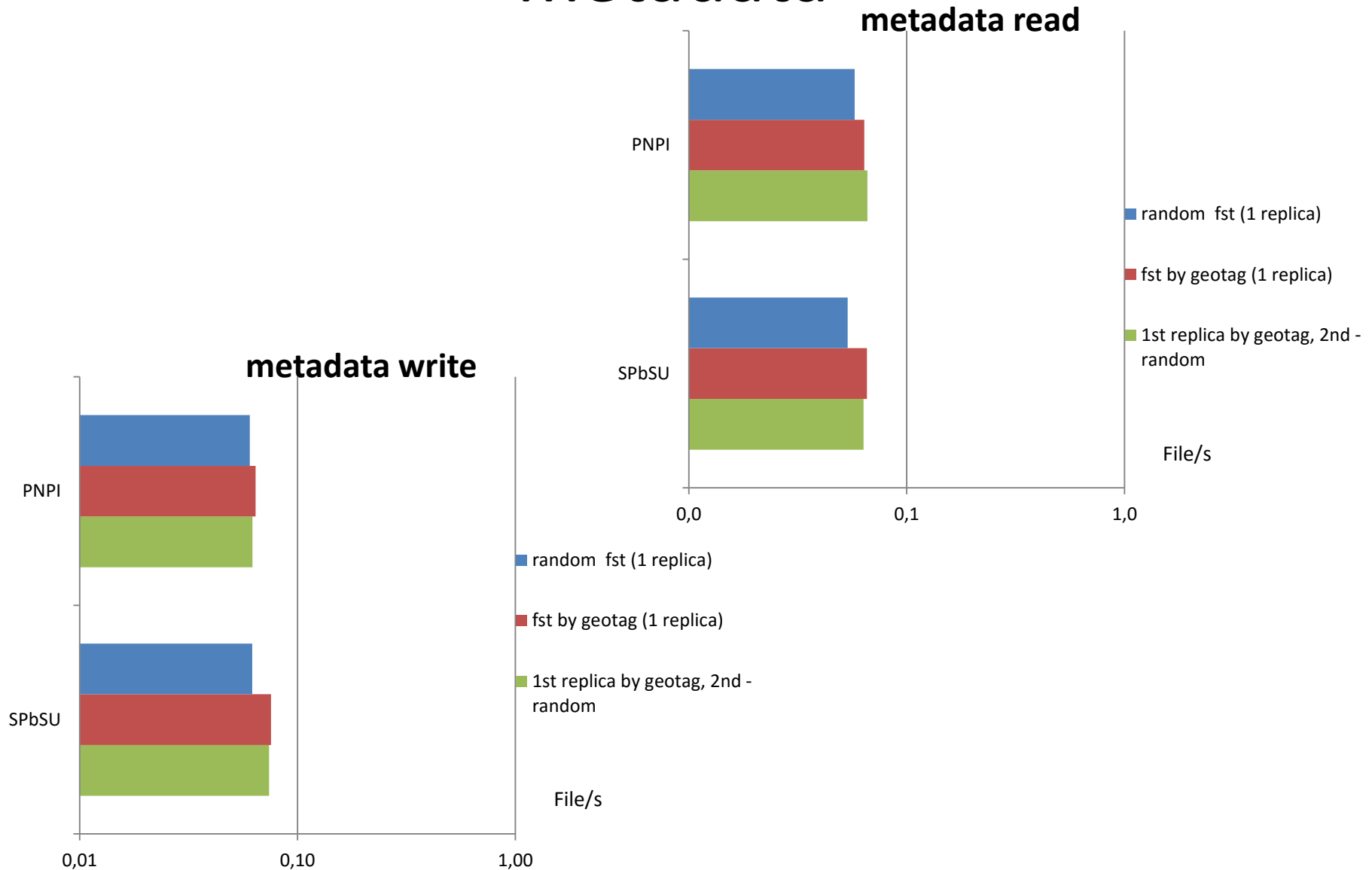
Test results – Bonnie++ on main testbed with KIAE FST only



Test results – xrdstress on 2nd testbed, data



Test results – xrdstress on 2nd testbed, metadata



Contribution demand

- Parsing and visualization of test results from <https://stor4.grid.kiae.ru/fedstor/>
- Confrontation of test results with perfSONAR data from <http://alice22.spbu.ru/maddash-webui/>
- Intent look into FUSE hassles

Thoughts on replication

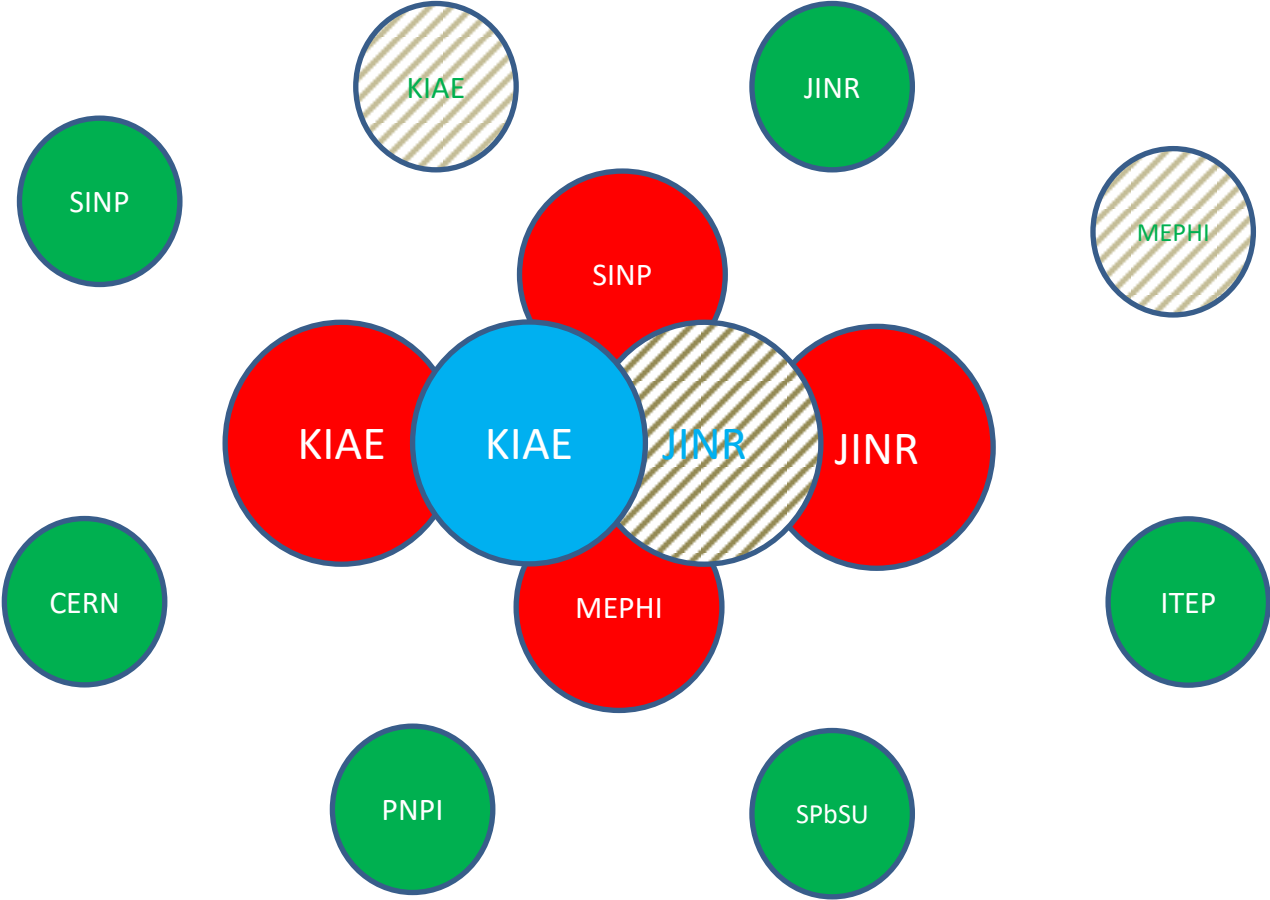
We have an idea of creating a script that will prepare a dataset for processing on a given UI by replicating all data to a closest FST. This will make sense after we solve the two-level replication problem as we want the user to be able to “clone” the primary replica without the possibility to delete or alter it in any way.

Test plans

- Use experiments tests for simultaneous stress access from all UIs using three aforementioned replication schemes.
- Gain more experience with xrdstress, verify and clarify its results.

BACKUP slides

Readiness of main testbed



MGM - manager
FST – File server
UI - Client