

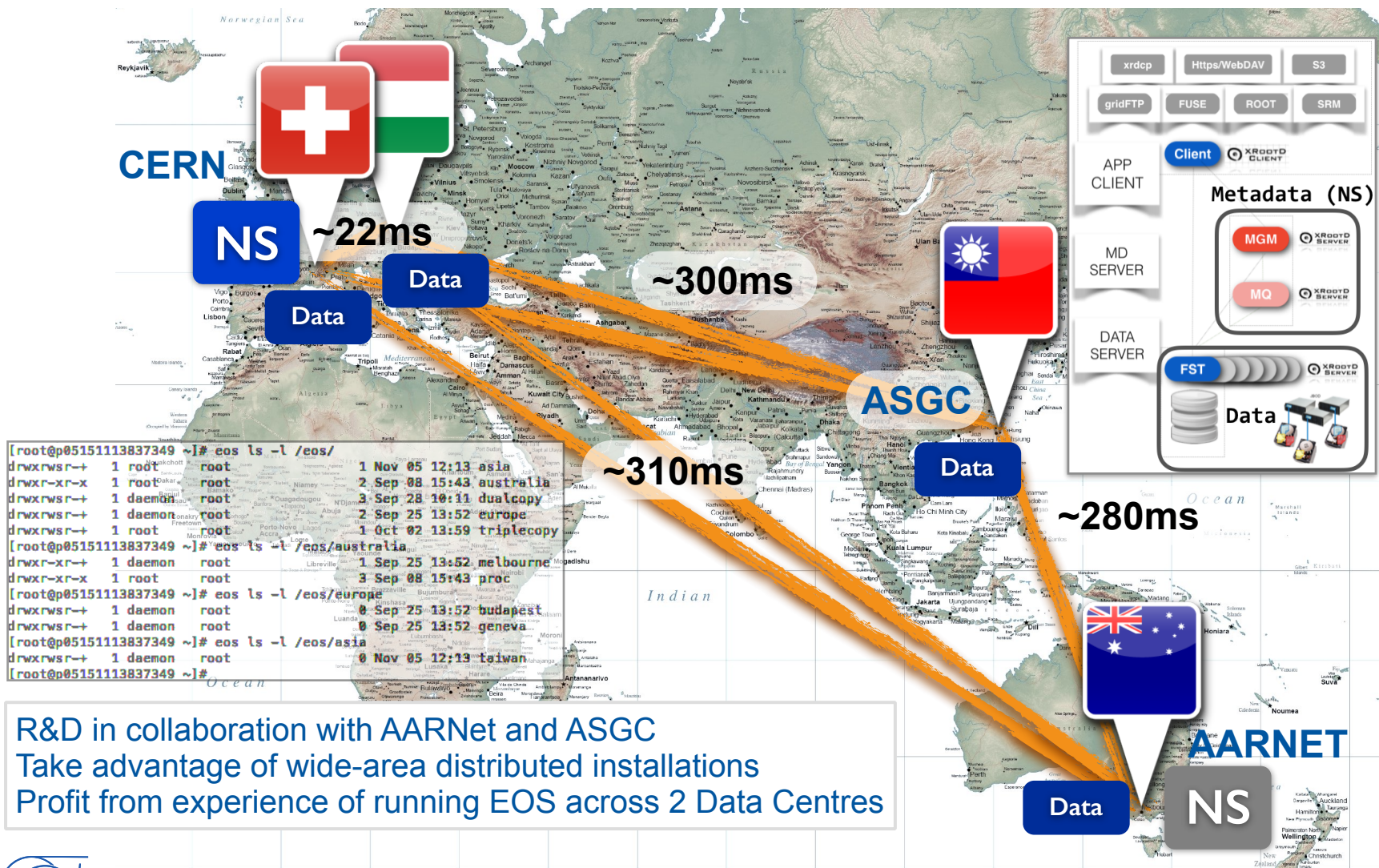


Global EOS: exploring the 300-ms-latency region

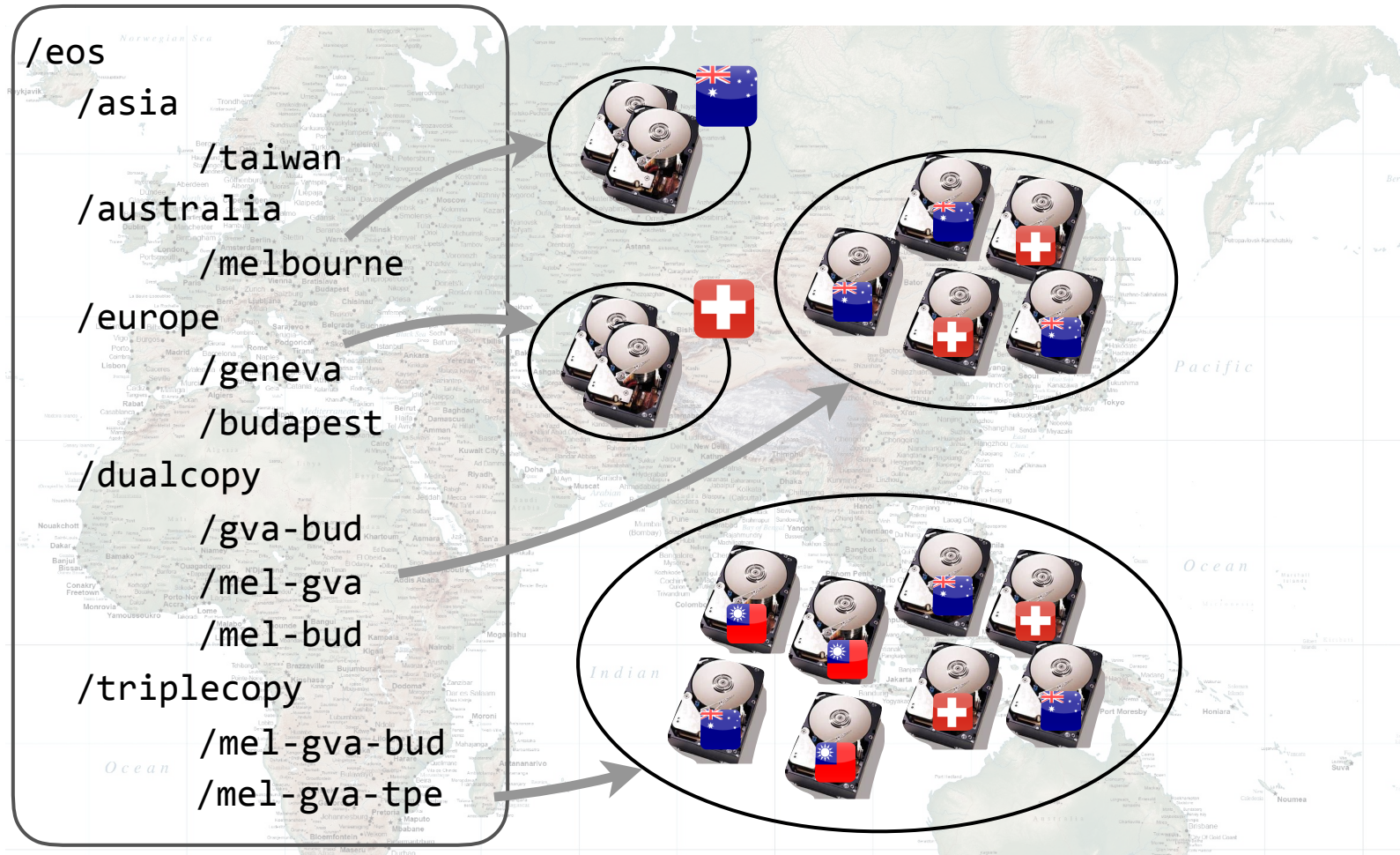
LHC: 27 km

Luca Mascetti
CERN/IT-Storage

Global EOS: World-Wide Deployment

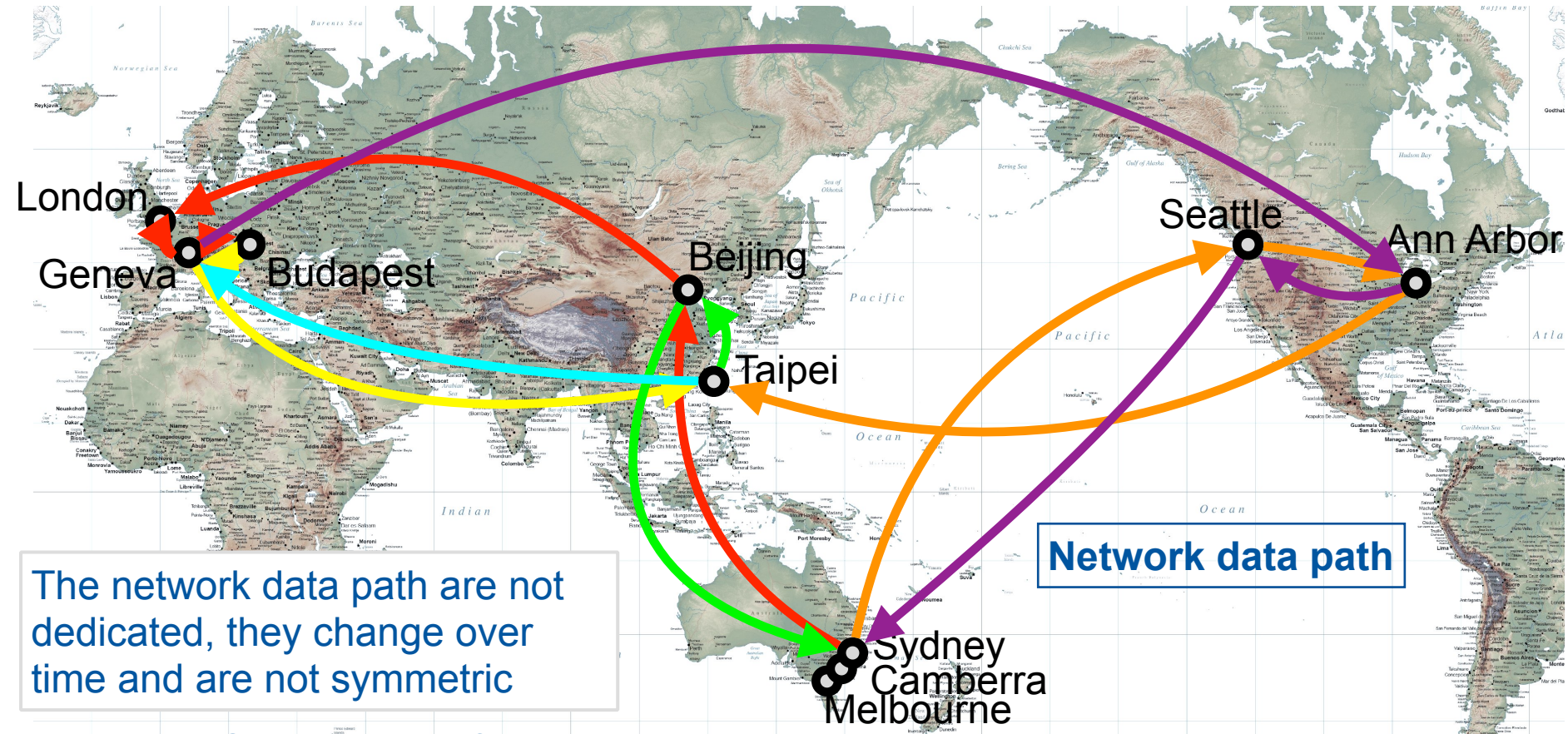


Data replication in storage pools



Storage pools were created with filesystems from all four sites. Files were replicated according to the different configured policy (e.g. 3 replicas: MEL-GVA-TPE).

Network Topology



- Streaming performance good
 - possible problems in case of packet drops (tcp window)
 - tcp settings could be optimised
- Latency in read hidden by the read-only NS
- Latency in write to contact the read-write NS

Summary

- EOS provides a very flexible storage platform for a large community
 - integrated in Tier-0 workflow by ATLAS & CMS
 - more than 6k users storing data today
- Demonstrated unprecedented scalability
 - largest low-cost HEP storage installation site today (~200 PB and 50k disks)
- EOS confirm its capability in handling multiple sites even with very high latencies.
- Performance using native clients were mainly dictated by the connectivity status of the sites.
- Authentication (for read or for write) affected by the latency to contact the closer namespace.
- **Strategic** direction for CERN based disk storage
 - for physics data (user/group/grid)
 - ‘new-style’ synchronise home directory via **CERNBox**



www.cern.ch