

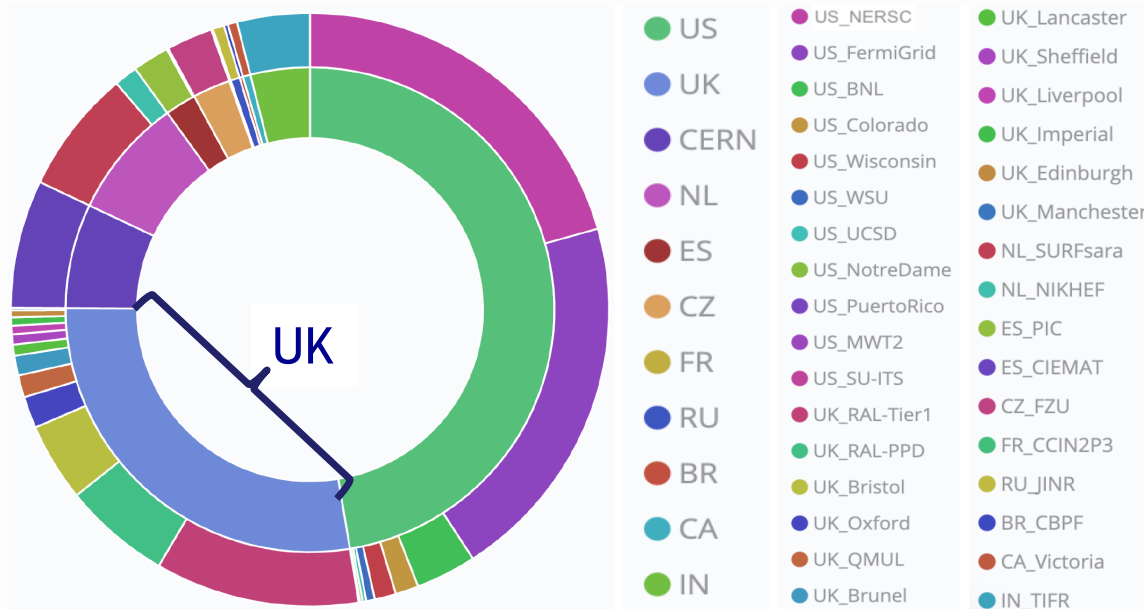
# DUNE Computing Resources in UK

... a brief reminder

Date: 11/01/23

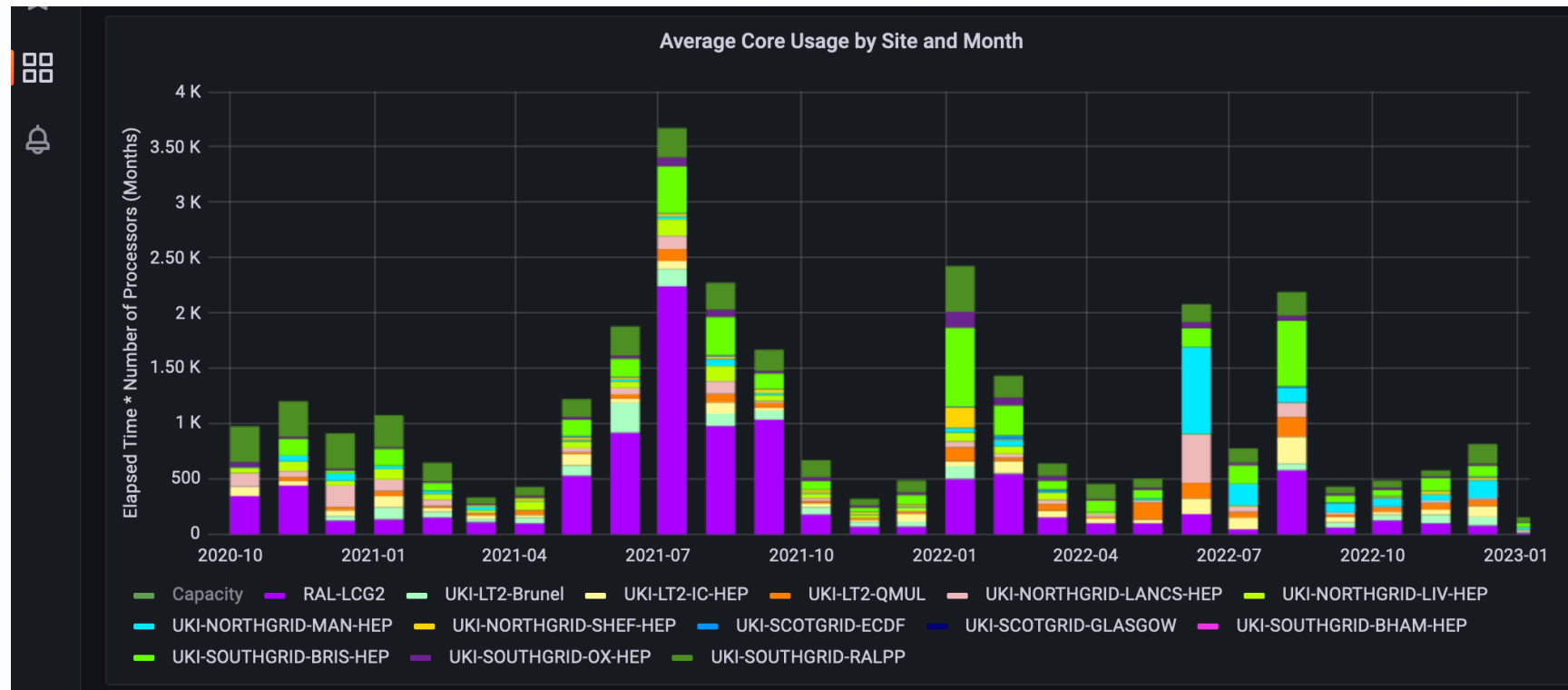
Pete Clarke  
University of Edinburgh

- DUNE uses the same infrastructure at the LHC: WLCG & OSG
- The UK provides substantive compute and storage capacity to DUNE (~ 20%)
- Second only to USA/FNAL (for CPU)



# Resource Provision via GridPP & IRIS: CPU

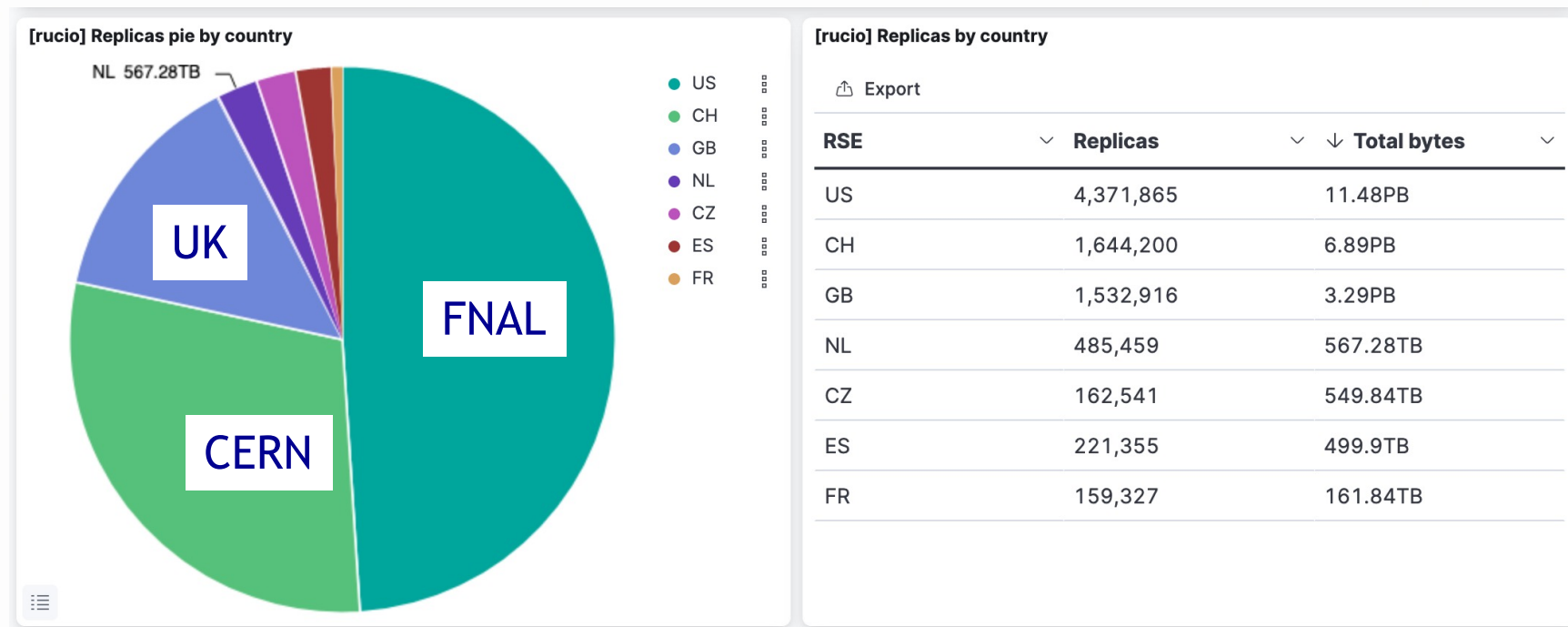
- CPU is deployed and operated as part of GridPP
- 1000 cores allocation → 2500 cores opportunistically
- Many GridPP sites provide CPU:



- GridPP also had to deploy a StashCache instance
  - To help solve poor job efficiency
  - Turn out to have helped lots of other VO's

# Resource Provision via GridPP & IRIS: DISK

- Storage is deployed and operated as part of GridPP
- UK is largest outside of FNAL & CERN



- UK provides 4 PB Disk allocation + 3 PB Tape allocation

# Resource Provision via GridPP & IRIS: Funding

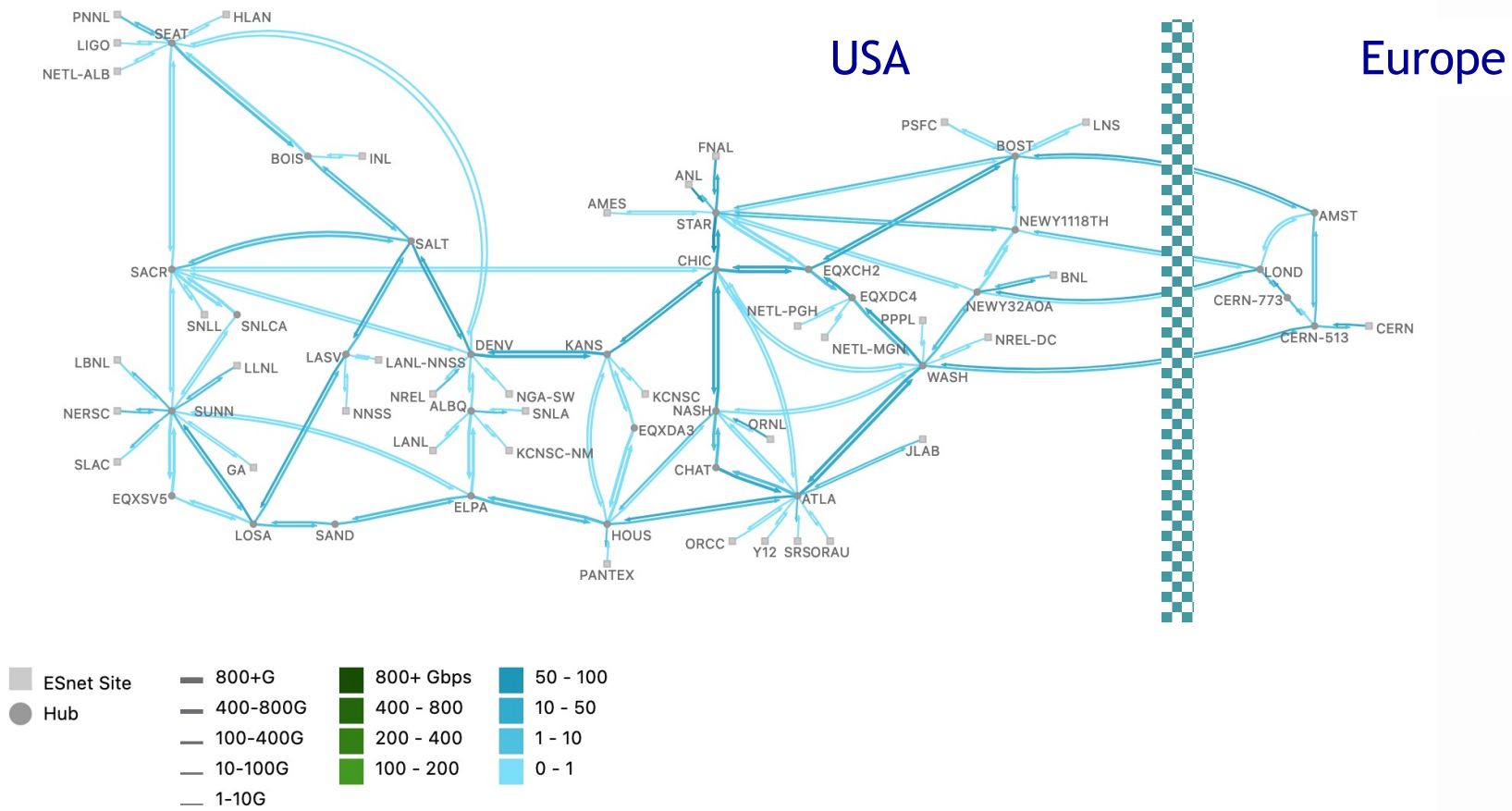
- Funding comes through IRIS
- IRIS is STFC wide consortium of Science projects
  - Includes HEP, Nuclear, Astronomy, Particle-Astro
  - Includes ISIS, CLF, Diamond...
- GridPP, DiRAC and STFC-SCD are founder members and major “providers” in IRIS
  - IRIS Director J.Hays (QMUL), previously P.C (Edinburgh)
- IRIS coordinates computing for many VOs who do not have the scale or tradition of organised computing
  - Capacity provided to them
  - Shares the software infrastructure on marginal effort basis
- IRIS does NOT run any hardware. All provision through GridPP, DiRAC and STFC-SCD
- IRIS works with STFC/UKRI to secure Digital Research Infrastructure (DRI) funds to continue provision long term.



# Resource Provision via GridPP & IRIS

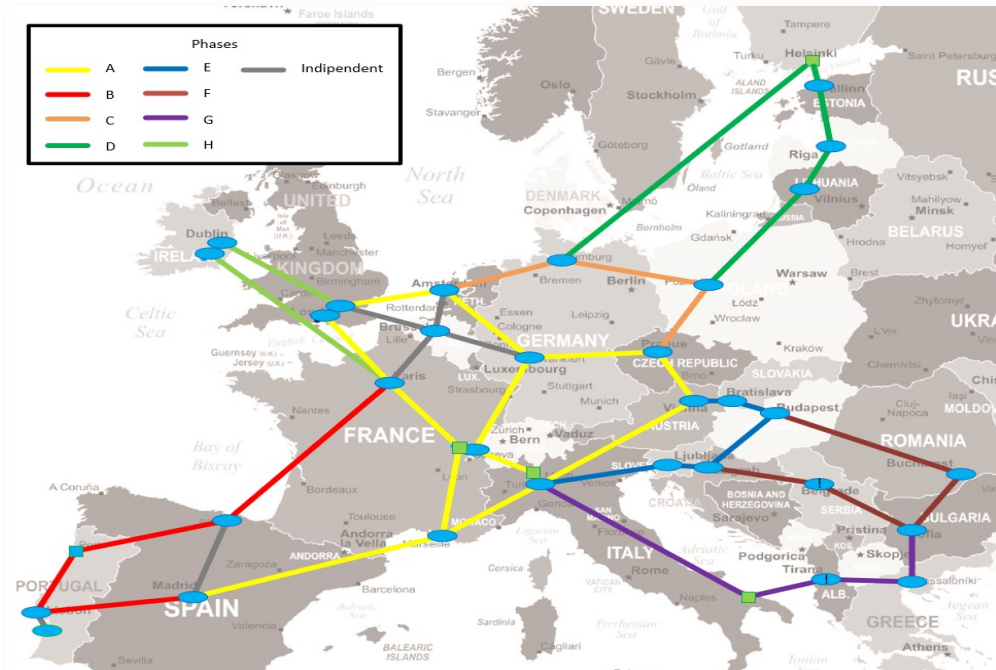
- GridPP funds capacity for many small VOs within a “10% of LHC” allocation. e.g.
  - BES, COMET, g-2, HyperK, IceCube, ILC, MICE, Mu3e, MoEDAL, NA62, Pheno, SoLiD, T2K, SBND
- The DUNE request came long after GridPP6 was funded
  - A “bit large” to fit in a share of the 10%
  - IRIS had received its first £16M → so DUNE requested IRIS capacity
- IRIS gives GridPP funds to purchase and deploy the extra capacity for DUNE.
- Since then, no reason to change → DUNE sends an annual update request for capacity to IRIS  
[\*\*note a request for MicroBooNE is also included]
- UK requests ~ 20% of DUNE requirement as we are “big” and “good”
  - ~ 1000 CPU
  - ~ 4 PB disk
  - ~ 3 PB Tape allocated but this is in abeyance as DUNE is not using external tape yet
- DUNE uses more CPU opportunistically (like LHC)
  - up to 2500 cores in 2022

# ...oh...and don't forget to thank JISC, Geant and ESNet



...oh...and don't forget to thank JISC, Geant and ESNet

Geant



Janet

