Manchester in the DUNE Computing Consortium

- Andrew McNab (AM) is International Technical Lead in the Computing Consortium management
  - Heidi S. = consortium lead
  - M. Kirby = host laboratory technical lead
- Major work of the consortium this year has been
  - Computing section for TDR Exec Summary
  - Data Model (DM) Workshop (Aug, BNL)
    - AM defined the required outputs for CM
  - Computing Model (CM) Workshop (Sep, FNAL)
    - AM lead the organisation of the workshop

Computing capacity for DUNE

- Manchester provides a significant amount of capacity to DUNE
    - See usage slides
- Mostly funded by IRIS but also some from the GridPP non-LHC 10%
- Storage (up to 1PB)
- CPU (up to 1500 cores)
    - Conventional grid and cloud (OpenStack + Vac)
- AM provided support for other sites during on-boarding
    - Especially during the early stages while the issues were being understood

DUNE VMs

- AM created a VM definition which allow DUNE jobs to run inside a VM
  - Allows DUNE jobs to run on cloud capacity: Vcycle/OpenStack and Vac
- VMs know how to connect to glideinWMS at FNAL and fetch jobs
- VMs follow the Vacuum Platform API which allows VMs from multiple experiments to run on the same hardware (ATLAS, LHCb, ...)
- Now in production and largely complete
- This work was funded by IRIS

Provisioning

- Area outlined in the DUNE UK bid

- Design at the stage of discussions with colleagues at FNAL and elsewhere

- Includes contributions to / interoperation with HEPCloud

  - This will allow efficient use of private and commercial cloud resources and HPC machines

  - An (automated!) understanding of when to book time on these resources is needed ...

  - ... since it involve spending real money or using up allocated credits