Intro to session on
Non-LHC Focus
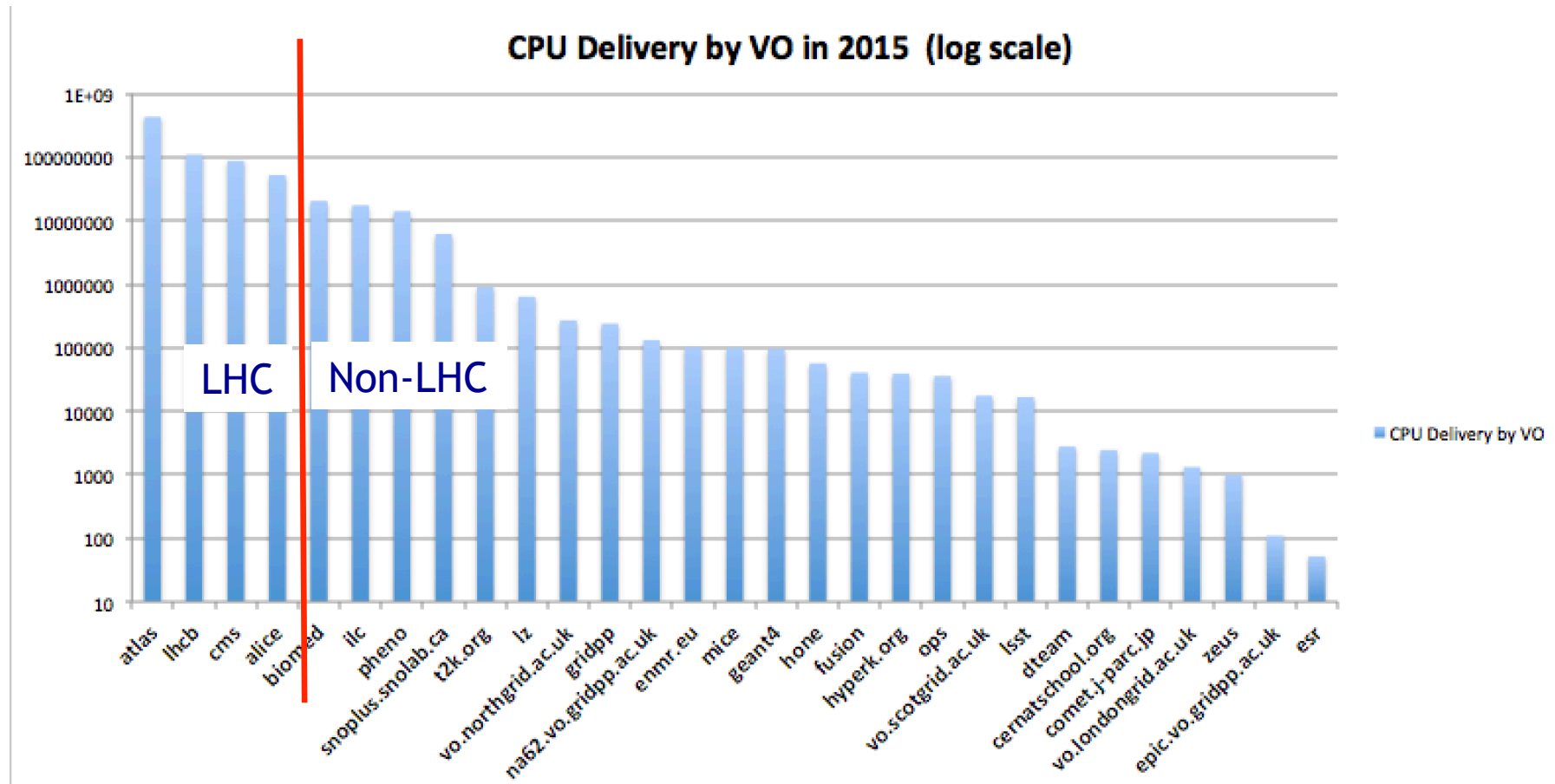
Pete Clarke

GridPP37

2 Sept 2016

- Non-LHC activities supported are shown in this <u>log</u> plot

CPU Delivery by VO in 2015 (log scale)

- These are supported through:
  - Trying to maintain 10% of GridPP resources reserved for non-LHC activities
  - Local leverage at Tier2 sites

- Currently supported PP activities include:
  - ATLAS,CMS, LHCb,ALICE,
  - T2K,
  - NA62,
  - ILC,
  - PhenoGrid,
  - SNO,
  - .....other smaller users....

- New major activities on horizon in next 5 years:
  - Lux-Zeplin [already in production]
  - HyperK, DUNE
  - LSST

- **Every effort is made to support any new PP activity within existing resources**

- **But as more and more activities arise then eventually unitarity will be violated**
  - **marginal cost of physical hardware resources**
 - **spreading staff even more thinly**

- Policy published on GridPP web site: new activities are encouraged to:

  - liaise with GridPP when preparing any requests for funding

  - at least make their computing resource costs manifest when seeking approval

  - where these are "large" then to request these costs where possible

  - this is particularly important if a large commitment (pledge in LHC terms) is required to an international collaboration.

- Each new activity should consider the complete costs of computing:
  - Marginal hardware (CPU, storage)
  - Staff:
    - operations
    - generic services
    - user support
    - activity specific services

  Economies of scale increase

- **Of course, if it is not "timely" to obtain costs, then best efforts access remains**

- PP requirements grow towards LHC Run-III

- Astronomy requirements are growing fast
  - Advanced LIGO
  - LSST
  - EUCLID
  - SKA

- Figure shows CPU requirements (2015 cores)
  - GridPP5 funded
  - PP requirements
  - PPAN requirements

[some of difference between green and purple is currently made up of leverage]
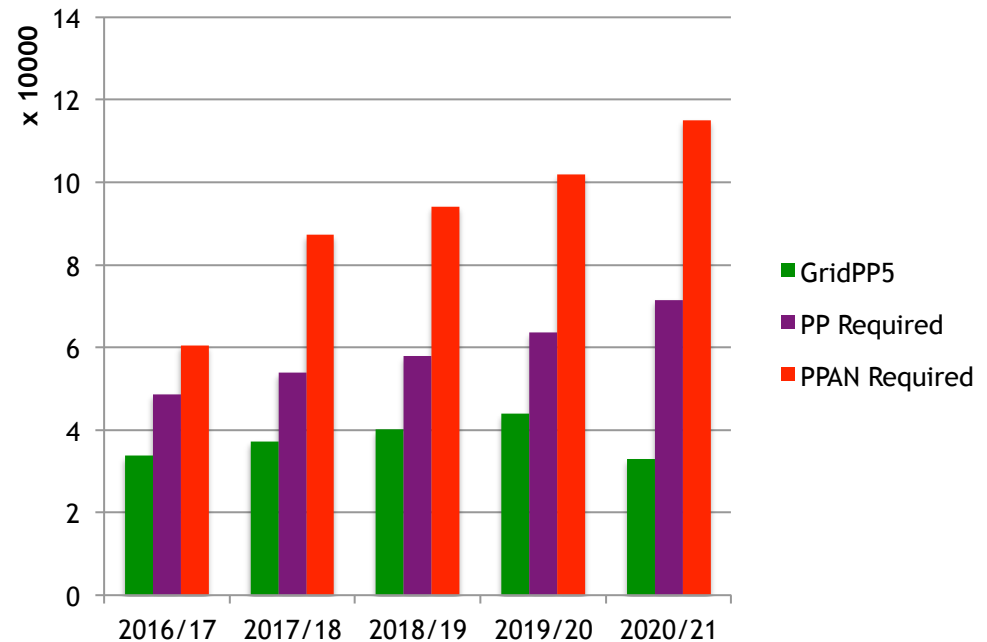
- Similar plots for storage

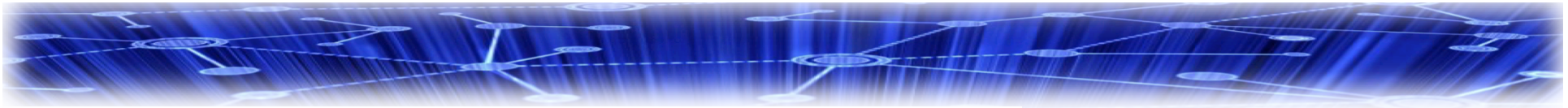- PPAN requirements are approximately double the known funded resources

LHC cat and non-LHC cat have to share

It was not possible to fund all hardware costs in
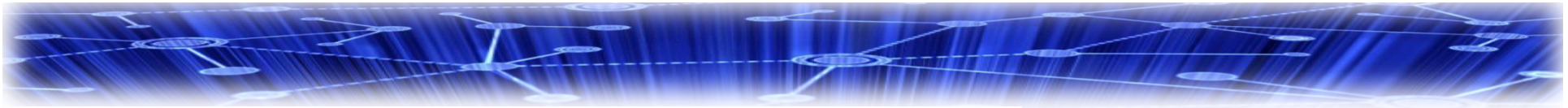GridPP5 for all LHC and non-LHC requirements

local leverage and determination

next 5 years … we have to work as UKT0

DBEIS invest in bigger basket ?

DBEIS invest in bigger basket ?   ..and a high performance basket

- ➢ Computing for LHC is approximately OK until 2019/20 through GridPP5

- ➢ Requirements from non-LHC activities are growing. Up to a point this can be handled using leveraged resources at Tier2 sites - but at some point unitarity is violated for both hardware and staff

- ➢ New activities are encouraged to liaise early with GridPP, to work within UKT0 framework, and to request and contribute marginal costs as part of the "collective"

- ➢ DiRAC HPC provision for theory is at end of life – the situation is rapidly becoming serious.

- ➢ Severe shortage of computing staff in experiments

- ➢ There is much good will across STFC (PPAN and National Facilities) to work together to minimise costs

- ➢ Case being made strongly to BEIS for eInfrastructure investment