

GRIDPP - UK Tier 1 Experiment Requests: 2019

**UK Tier 1 Requests - 2019**  
CPU (HEPSPEC06)

|                      |               |               |  | VO requirements |               |               |               |               |               |               |               |               |               |               |               |               | WLCG 19       | Possible WLCG 2020 |               |
|----------------------|---------------|---------------|--|-----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--------------------|---------------|
|                      | Oct-Dec Av    | Jul 18        |  | Jul-19          | Aug-19        | Sep-19        | Oct-19        | Nov-19        | Dec-19        | Jan-20        | Feb-20        | Mar-20        | Apr-20        | May-20        | Jun-20        | Apr 2019      | pledge        | pledge??           |               |
|                      | Used/month    | Alloc         |  |                 |               |               |               |               |               |               |               |               |               |               |               |               |               |                    | 2016 expected |
| ALICE                | 5784          | 6076          |  | 7300            | 7300          | 7300          | 7300          | 7300          | 7300          | 7300          | 7300          | 7300          | 7300          | 7300          | 7300          | 7300          | 7300          | 7300               | 3140          |
| ATLAS                | 95973         | 116300        |  | 132125          | 132125        | 132125        | 132125        | 132125        | 132125        | 132125        | 132125        | 132125        | 132125        | 132125        | 132125        | 132125        | 132125        | 132125             | 65000         |
| GMS                  | 32291         | 48000         |  | 52000           | 52000         | 52000         | 52000         | 52000         | 52000         | 52000         | 52000         | 52000         | 52000         | 52000         | 52000         | 52000         | 52000         | 52000              | 32000         |
| LHCb                 | 71135         | 74820         |  | 81300           | 81300         | 81300         | 81300         | 81300         | 81300         | 81300         | 81300         | 81300         | 81300         | 81300         | 81300         | 81300         | 81300         | 81300              | 46800         |
| enmr                 | 0             | 50            |  | 50              | 50            | 50            | 50            | 50            | 50            | 50            | 50            | 50            | 50            | 50            | 50            | 50            | 50            | 50                 |               |
| ILC                  | 3931          | 300           |  | 600             | 600           | 600           | 600           | 600           | 600           | 600           | 600           | 600           | 600           | 600           | 600           | 600           | 600           | 600                |               |
| MOBRAIN              |               |               |  |                 |               |               |               |               |               |               |               |               |               |               |               |               |               |                    |               |
| NA62                 | 2859          | 1000          |  | 2000            | 2000          | 2000          | 2000          | 2000          | 2000          | 2000          | 2000          | 2000          | 2000          | 2000          | 2000          | 2000          | 2000          | 2000               |               |
| T2K                  | 114           | 600           |  | 600             | 600           | 600           | 600           | 600           | 600           | 600           | 600           | 600           | 600           | 600           | 600           | 600           | 600           | 600                |               |
| Pheno                | 795           | 200           |  | 200             | 200           | 200           | 200           | 200           | 200           | 200           | 200           | 200           | 200           | 200           | 200           | 200           | 200           | 200                |               |
| SNO+                 | 0             | 200           |  | 200             | 200           | 200           | 200           | 200           | 200           | 200           | 200           | 200           | 200           | 200           | 200           | 200           | 200           | 200                |               |
| Dteam/Ops            | 32            | 0             |  | 0               | 0             | 0             | 0             | 0             | 0             | 0             | 0             | 0             | 0             | 0             | 0             | 0             | 0             | 0                  |               |
| IRIS                 |               |               |  |                 |               |               |               |               |               |               |               |               |               |               |               |               |               |                    |               |
| LSST                 |               |               |  | 1000            | 1000          | 1000          | 1000          | 1000          | 1000          | 1000          | 1000          | 1000          | 1000          | 1000          | 1000          | 1000          | 1000          | 1000               |               |
| Other                | 824           | 10            |  | 10              | 10            | 10            | 10            | 10            | 10            | 10            | 10            | 10            | 10            | 10            | 10            | 10            | 10            | 10                 |               |
| <b>TOTAL</b>         | <b>213738</b> | <b>247556</b> |  | <b>277385</b>   | <b>277385</b> | <b>277385</b> | <b>277385</b> | <b>277385</b> | <b>277385</b> | <b>277385</b> | <b>277385</b> | <b>277385</b> | <b>277385</b> | <b>277385</b> | <b>277385</b> | <b>277385</b> | <b>277385</b> | <b>277385</b>      |               |
| LCG Total            | 205183        | 245196        |  | 272725          | 272725        | 272725        | 272725        | 272725        | 272725        | 272725        | 272725        | 272725        | 272725        | 272725        | 272725        | 272725        | 272725        | 272725             |               |
| Sum of Non-LHC       | 8555          | 2360          |  | 4660            | 4660          | 4660          | 4660          | 4660          | 4660          | 4660          | 4660          | 4660          | 4660          | 4660          | 4660          | 4660          | 4660          | 4660               |               |
| Fabric               | 0             | 0             |  | 0               | 0             | 0             | 0             | 0             | 0             | 0             | 0             | 0             | 0             | 0             | 0             | 0             | 0             | 0                  |               |
| Reserve              | 0.0           | 0.0           |  | 0.0             | 0.0           | 0.0           | 0.0           | 0.0           | 0.0           | 0.0           | 0.0           | 0.0           | 0.0           | 0.0           | 0.0           | 0.0           | 0.0           | 0.0                |               |
| <b>CURR CAPACITY</b> | <b>267616</b> | <b>267616</b> |  | <b>302507</b>   | <b>302507</b> | <b>302507</b> | <b>302507</b> | <b>302507</b> | <b>302507</b> | <b>302507</b> | <b>302507</b> | <b>302507</b> | <b>302507</b> | <b>302507</b> | <b>302507</b> | <b>302507</b> | <b>302507</b> | <b>302507</b>      |               |
| <b>HEADROOM</b>      | <b>53878</b>  | <b>20060</b>  |  | <b>25122</b>    | <b>25122</b>  | <b>25122</b>  | <b>25122</b>  | <b>25122</b>  | <b>25122</b>  | <b>25122</b>  | <b>25122</b>  | <b>25122</b>  | <b>25122</b>  | <b>25122</b>  | <b>25122</b>  | <b>25122</b>  | <b>25122</b>  | <b>25122</b>       |               |
|                      |               |               |  |                 |               |               |               |               |               |               |               |               |               |               |               |               | <b>272725</b> | <b>87101.6</b>     |               |

Ongoing requirement to be decided at the resource meeti

LSST placeholder to be monitored.  
(Includes LIGO?, SKATElescope...)

Usually 5% - set to zero for now  
Estimated Capacity dependant on

TB - Powers of 10!

**UK Tier 1 Requests - 2019**  
**DISK(TeraBytes)**

|                              | Dec 18 deploy | Dec 18 Used | Dec 18 Alloc | Jul-19  | Aug-19  | Sep-19  | Oct-19  | Nov-19  | Dec-19  | Jan-20  | Feb-20  | Mar-20  | Apr-20  | May-20  | Jun-20  | 95% of pledge into disk for each VO. 5% of pledge into tape buffers | WLCG 19 Pledge | Possible WLCG 2020 Pledge??     |                                     |
|------------------------------|---------------|-------------|--------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---|----------------|---------------------------------|-------------------------------------|
| ALICE CASTOR                 | 544           | 385         | 638          | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       |   | 758            | 1320                            | 1254                                |
| ALICE Echo                   | 100           |             |              | 720     | 720     | 720     | 720     | 720     | 720     | 720     | 720     | 720     | 720     | 720     | 720     |   | 720            |                                 |                                     |
| ATLAS CASTOR                 | 534           | 505         | 8850         | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       |   | 11000          | 13024                           | 12372.8                             |
| ATLAS Echo                   | 5000          | 7794        |              | 10450   | 10450   | 10450   | 10450   | 10450   | 10450   | 10450   | 10450   | 10450   | 10450   | 10450   | 10450   |   | 10450          |                                 |                                     |
| CMS CASTOR                   | 2079          | 504         | 4784         | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       |   | 5440           | 4624                            | 4392.8                              |
| CMS Echo                     | 3000          | 4426        |              | 5168    | 5168    | 5168    | 5168    | 5168    | 5168    | 5168    | 5168    | 5168    | 5168    | 5168    | 5168    |   | 5168           |                                 |                                     |
| LHCb CASTOR                  | 5472          | 5140        | 7317         | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       |   | 8370           | 5677                            | 5393.34                             |
| LHCb Echo                    | 2500          | 1840        |              | 7952    | 7952    | 7952    | 7952    | 7952    | 7952    | 7952    | 7952    | 7952    | 7952    | 7952    | 7952    |   | 7952           |                                 | 1232.26                             |
| ALICE Total                  | 644           | 385         | 638          | 720     | 720     | 720     | 720     | 720     | 720     | 720     | 720     | 720     | 720     | 720     | 720     |   |                |                                 |                                     |
| ATLAS Total                  | 5534          | 8299        | 8850         | 10450   | 10450   | 10450   | 10450   | 10450   | 10450   | 10450   | 10450   | 10450   | 10450   | 10450   | 10450   |   |                |                                 |                                     |
| CMS Total                    | 5079          | 4930        | 4784         | 5168    | 5168    | 5168    | 5168    | 5168    | 5168    | 5168    | 5168    | 5168    | 5168    | 5168    | 5168    |   |                |                                 |                                     |
| LHCb Total                   | 7972          | 6980        | 7317         | 7952    | 7952    | 7952    | 7952    | 7952    | 7952    | 7952    | 7952    | 7952    | 7952    | 7952    | 7952    |   |                |                                 |                                     |
| Castor Tape buffer (Echo)    |               |             | 0            | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       | 0       |   |                | Shared pool                     |                                     |
| LIGO(echo)                   |               |             |              | 100     | 100     | 100     | 100     | 100     | 100     | 100     | 100     | 100     | 100     | 100     | 100     |   |                | Propose to support LIGO DISCUSS |                                     |
| DUNE??                       |               |             |              |         |         |         |         |         |         |         |         |         |         |         |         |   |                |                                 |                                     |
| NA62??                       |               |             |              |         |         |         |         |         |         |         |         |         |         |         |         |   |                |                                 |                                     |
| LSST                         |               |             |              |         |         |         |         |         |         |         |         |         |         |         |         |   |                |                                 |                                     |
| S3 testing for all VO (Echo) |               |             |              | 100     | 100     | 100     | 100     | 100     | 100     | 100     | 100     | 100     | 100     | 100     | 100     |   |                |                                 |                                     |
| IRIS                         |               |             |              | 5346    | 5346    | 5346    | 5346    | 5346    | 5346    | 5346    | 5346    | 5346    | 5346    | 5346    | 5346    |   |                |                                 |                                     |
| Castor Tape buffer (Castor)  | 1281.0        | 2139.0      | 1281         | 1278    | 1278    | 1278    | 1278    | 1278    | 1278    | 1278    | 1278    | 1278    | 1278    | 1278    | 1278    |   |                |                                 |                                     |
| CASTOR TOTAL                 | 9910          | 8673        | 22870        | 1278.0  | 1278.0  | 1278.0  | 1278.0  | 1278.0  | 1278.0  | 1278.0  | 1278.0  | 1278.0  | 1278.0  | 1278.0  | 1278.0  |   |                |                                 |                                     |
| LCG Total                    | 16729         | 18754       | 21589        | 24290.0 | 24290.0 | 24290.0 | 24290.0 | 24290.0 | 24290.0 | 24290.0 | 24290.0 | 24290.0 | 24290.0 | 24290.0 | 24290.0 |   | 25568          | 24645.2                         |                                     |
|                              |               |             |              |         |         |         |         |         |         |         |         |         |         |         |         |   |                |                                 |                                     |
|                              |               |             |              |         |         |         |         |         |         |         |         |         |         |         |         |   |                |                                 |                                     |
| CURR CASTOR CAPACITY         | 21828         | 21828       | 21828        | 4730    | 4730    | 4730    | 4730    | 4730    | 4730    | 4730    | 4730    | 4730    | 4730    | 4730    | 4730    |   |                |                                 | Need to check the total allocatable |
| CASTOR HEADROOM              | 11918.0       | 13155.0     | -1042.0      | 3452.0  | 3452.0  | 3452.0  | 3452.0  | 3452.0  | 3452.0  | 3452.0  | 3452.0  | 3452.0  | 3452.0  | 3452.0  | 3452.0  |   |                |                                 |                                     |
| Echo TOTAL Allocated         |               |             |              | 29836   | 29836   | 29836   | 29836   | 29836   | 29836   | 29836   | 29836   | 29836   | 29836   | 29836   | 29836   |   |                |                                 |                                     |
| Echo CURR CAPACITY           |               |             |              | 31088   | 31088   | 31088   | 31088   | 31088   | 31088   | 31088   | 31088   | 31088   | 31088   | 31088   | 31088   |   |                |                                 | Need to check the total allocatable |
| Echo HEADROOM                |               |             |              | 1252.0  | 1252.0  | 1252.0  | 1252.0  | 1252.0  | 1252.0  | 1252.0  | 1252.0  | 1252.0  | 1252.0  | 1252.0  | 1252.0  |   |                |                                 |                                     |
| Grand Total Capacity         |               |             |              | 35818.0 | 35818.0 | 35818.0 | 35818.0 | 35818.0 | 35818.0 | 35818.0 | 35818.0 | 35818.0 | 35818.0 | 35818.0 | 35818.0 |   |                |                                 |                                     |
| Total Headroom               |               |             |              | 4704.0  | 4704.0  | 4704.0  | 4704.0  | 4704.0  | 4704.0  | 4704.0  | 4704.0  | 4704.0  | 4704.0  | 4704.0  | 4704.0  |   |                |                                 |                                     |

TB - Powers of 10!

| UK Tier 1 Requests - 2019<br>TAPE(TeraBytes) |  | Dec 18 Used    | Dec 18 Alloc   | Jul-19       | Aug-19       | Sep-19       | Oct-19       | Nov-19       | Dec-19       | Jan-20       | Feb-20       | Mar-20       | Apr-20       | May-20       | Jun-20       | Apr 2019     | WLCG 19 Pledge | Possible WLCG 2020 Pledge? |
|--|--|----------------|----------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------|----------------------------|
| ALICE  |  | 882.0          | 818            | 870          | 870          | 870          | 870          | 870          | 870          | 870          | 870          | 870          | 870          | 870          | 870          | 870          | 754            | 1131                       |
| ATLAS  |  | 16980.0        | 24375          | 23000        | 23000        | 23000        | 23000        | 23000        | 23000        | 23000        | 23000        | 23000        | 23000        | 23000        | 23000        | 23000        | 27625          | 32708                      |
| CMS  |  | 11601.0        | 14936          | 14960        | 14960        | 14960        | 14960        | 14960        | 14960        | 14960        | 14960        | 14960        | 14960        | 14960        | 14960        | 16000        | 17600          | 14960                      |
| LHCb   |  | 11570.0        | 18231          | 12578        | 12578        | 12578        | 12578        | 12578        | 12578        | 12578        | 12578        | 12578        | 12578        | 12578        | 12578        | 13000        | 15270          | 9491                       |
| ILC  |  | 214.0          | 400            | 400          | 400          | 400          | 400          | 400          | 400          | 400          | 400          | 400          | 400          | 400          | 400          | 400          | 400            |                            |
| MICE   |  | 83.0           | 75             | 100          | 100          | 100          | 100          | 100          | 100          | 100          | 100          | 100          | 100          | 100          | 100          | 100          | 100            |                            |
| NA62   |  | 831.0          | 800            | 2000         | 2000         | 2000         | 2000         | 2000         | 2000         | 2000         | 2000         | 2000         | 2000         | 2000         | 2000         | 2000         | 2000           |                            |
| T2K  |  | 835.0          | 1800           | 1300         | 1300         | 1300         | 1300         | 1300         | 1300         | 1300         | 1300         | 1300         | 1300         | 1300         | 1300         | 1300         | 1300           |                            |
| Pheno  |  | 0.0            | 0              | 5            | 5            | 5            | 5            | 5            | 5            | 5            | 5            | 5            | 5            | 5            | 5            | 5            | 5              |                            |
| SOLID  |  |                |                | 100          | 100          | 100          | 100          | 100          | 100          | 100          | 100          | 100          | 100          | 100          | 100          | 100          | 100            |                            |
| SNO+   |  | 111.0          | 50             | 100          | 100          | 100          | 100          | 100          | 100          | 100          | 100          | 100          | 100          | 100          | 100          | 100          | 100            |                            |
| DUNE   |  |                |                | 500          | 500          | 500          | 500          | 500          | 500          | 500          | 500          | 500          | 500          | 500          | 500          | 500          | 500            |                            |
| Dteam/Ops                                    |  | 0.0            | 0              | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0              |                            |
| DiRAC  |  | 2614.0         | 5000           | 3000         | 3000         | 3000         | 3000         | 3000         | 3000         | 3000         | 3000         | 3000         | 3000         | 3000         | 3000         | 5000         | 5000           |                            |
| DEAP3600                                     |  |                |                | 50           | 50           | 50           | 50           | 50           | 50           | 50           | 50           | 50           | 50           | 50           | 50           | 50           | 50             |                            |
| Nuclear Physics                              |  |                |                |              |              |              |              |              |              |              |              |              |              |              |              |              |                |                            |
| LSST   |  |                |                | 50           | 50           | 50           | 50           | 50           | 50           | 50           | 50           | 50           | 50           | 50           | 50           | 50           | 50             |                            |
| Other  |  | 3.8            | 15.0           | 15.0         | 15.0         | 15.0         | 15.0         | 15.0         | 15.0         | 15.0         | 15.0         | 15.0         | 15.0         | 15.0         | 15.0         | 15.0         | 15.0           |                            |
| Fabric                                       |  | 0.0            | 0              | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0            | 0              |                            |
| <b>TOTAL</b>                                 |  | <b>45724.8</b> | <b>66500.0</b> | <b>59028</b> | <b>59028</b> | <b>59028</b> | <b>59028</b> | <b>59028</b> | <b>59028</b> | <b>59028</b> | <b>59028</b> | <b>59028</b> | <b>59028</b> | <b>59028</b> | <b>59028</b> | <b>62490</b> |                |                            |
| LCG Total 2018                               |  | 41033.0        | 58360.0        | 51408        | 51408        | 51408        | 51408        | 51408        | 51408        | 51408        | 51408        | 51408        | 51408        | 51408        | 51408        |              |                |                            |
| LCG Total 2019                               |  |                |                |              |              |              |              |              |              |              |              |              |              |              |              | 52870.0      |                |                            |
| CURR CAPACITY                                |  | 58956          | 58956          | 58956        | 58956        | 58956        | 58956        | 58956        | 58956        | 58956        | 58956        | 58956        | 58956        | 58956        | 58956        | 58956        |                |                            |
| HEADROOM                                     |  | 13231.2        | -7544.0        | -72.0        | -72.0        | -72.0        | -72.0        | -72.0        | -72.0        | -72.0        | -72.0        | -72.0        | -72.0        | -72.0        | -72.0        | -3534        |                |                            |

Note increased allocation (over the pledge value agreed by the PMB Nov 2015)

Increased request from 200 to 1PB in Mar 18 , decided or Plan to expand to 1.8PB during 2016

Planned to increase by 100TB each year

DUNE will be covered by IRIS resources

DiRAC will be covered by IRIS resources

Up to 150TB over time?

IRIS Capacity 13000

Notes:

1. WLCG pledges to be taken from REBUS database at <http://gstat-wlcg.cern.ch/apps/pledges/resources/> when available after October C-RRB

2. GridPP4 2015 numbers from: [http://www.gridpp.ac.uk/docs/gridpp4/GridPP4\\_Proposal\\_Final.pdf](http://www.gridpp.ac.uk/docs/gridpp4/GridPP4_Proposal_Final.pdf). Page 9