

Useful information

Things you might have forgotten
or might need to know

ICC Theory Lunch
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Alastair Basden

SSH keys and authentication

- Make sure you use a passphrase
 - A key chain will help here
- DiRAC are pushing for 2 factor authentication
 - We will probably have to implement on COSMA
 - Trial ongoing at Leicester

Queues and machines

- List of queues

- cosma7 – 3 day runtime, 452 nodes
- cosma7-prince – 300 day runtime, 452 nodes
- cosma7-pauper – 1 day runtime, 452 nodes
- cosma7-mad – mad01 (56 cores, 3TB RAM)
- cosma7-shm – mad02 (112 cores, 1.5TB RAM)
- cosma7-swift – 4 nodes for quick MPI tests
- cosma7-bench – 1 node for benchmarking
- cosma6 [+ prince,pauper] (572 nodes)
- cosma [+ prince] – 30 days (300 nodes)
- cosma-analyse – 9 nodes (SHARED)
- cordelia – 9 nodes (SHARED)
- cosma-bench – 1 node
- cosma-shm – gone
- bluefield1 – For the bluefield nodes



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srun

- To have a quick look at a compute node:
 - `srun -p cosma7 -A dp004 -t 0:01:00 --pty /bin/bash`

Direct login machines

- login5a/b,6a,7a/b/c
- dataweb – data transfer (20Gbit/s, Globus, etc)
- mad03 (48 cores, 6TB)
- mad04 (128 cores, 4TB) (AMD)
- Login8a/b (64 cores, 2TB) (AMD)
- ga001, ga002, gn001 – GPU servers (AMD/Intel)
- Console81 (16 cores, 256GB) (AMD)
- B101-116 – BlueField servers (32 cores, 128GB) (AMD)

parallel_tasks

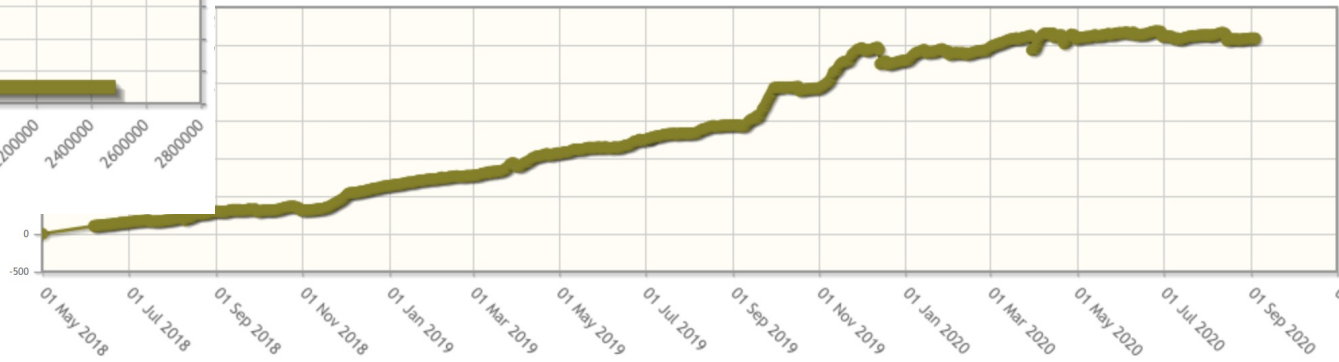
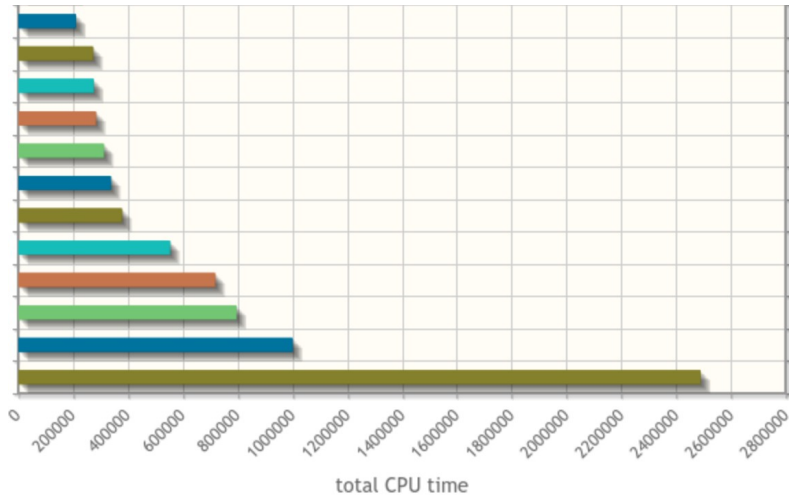
- For running many small jobs
 - Either use the cordelia queue (allowing you to specify fractions of a node)
 - Or use parallel_tasks: in /cosma/home/sample_user
 - Allows many single core jobs to be spread across multiple nodes

Storage

- `/cosma5`: Available on cosma5 (and 6, not optimal)
- `/cosma6`: Available on cosma6, 7, 8 (and 5, not optimal)
- `/cosma7`: Available on cosma6, 7, 8 (and 5, not optimal)
- `/snap7`: Available on cosma7
- `/madfs`: Available on cosma7
- `/data/dega1`: Available on cosma5, 6 (not optimal)
- `/cosma/home`: Available everywhere

System usage pages

- A link from the cosma support pages:
- <https://virgodb.cosma.dur.ac.uk/usage>



Archiving

- ~10PB tape storage
- The place to put stuff you probably won't need again, but might
- Frees up primary storage
- Ask us to archive or restore

Profiling/debugging

- Intel tools (intel_comp and oneAPI modules)
- ARM tools (allinea/ddt modules)

Contacting support

- cosma-support@durham.ac.uk
 - Peter Draper, Richard Regan, Alastair Basden
- Also teams/zoom – we're very happy to take face-to-face meetings!
- Cosma support pages:
 - www.dur.ac.uk/cosma
 - A wealth of information...

DiRAC-3

- Imminent
- ~600 nodes with 128 cores, 1TB RAM
- 6PB bulk storage (/cosma8)
- 1PB fast storage (/snap8)