NGCM all hands meeting

3 December 2015

Outline

NGCM all
hands
meeting

All hands
meetings

Report from
SC 2015
(Numba)

Virtual
machine
server

House
keeping

The end

- 22 students
  - 9 in first year
  - 13 in second year

Challenges:

- stay in touch
- learn from each other
- keep up with CDT business

All hands meetings

- monthly
- compulsory for all NGCM students
- one or a few technical talks
  - informal, practical, computing related
  - generally from NGCM students

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- "stand up meeting" style updates (30 seconds to 1 minute per person)
    - done last month, what next, any blockers?
    - communication vehicle for team members (not reporting to management)
    - promote follow up conversation
    - identify issues early
    - typically done standing up to keep overall length short

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- house keeping work

Programme today

- Oliver Laslett, Fellow of the Software Sustainability Institute *My fellowship, and visit of Supercomputing 2015*
- Hardware, Virtual machines and testing to the limit
- House keeping
- Networking

Report from Supercomputing

–> Oliver's slides

Hardware

- Iridis
- Additional machines, including
  - High Memory Nodes (CDT has priority access)

Let's have a look

```
[fangohr@laptop ~]$ ssh iridis3_c.soton.ac.uk
[fangohr@blue34 ~]$ ssh ngcm01
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[fangohr@orange01 ~]$ free -g
                total       used       free
Mem:             1009        301        708
-/+ buffers/cache:           141        867
Swap:              32          0         32
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[fangohr@orange01 ~]$ cat  /proc/cpuinfo  | grep processor | wc -l
48
```

So we have 1TB of RAM and 48 cores, and the machine is not
very busy.

More details

ITEM CODE	DESCRIPTION	QUANTITY	UNIT PRICE £	TOTAL £
	2 x IBM 2TB Memory Server x3950 X6 8U Chassis each with:	1	97757.42	97757.42
	4 x 1.2TB 10K 6Gbps SAS 2.5" HDD			
	8 x X6 Compute Book Intel Xeon Processor E7-8850 v2 12C 2.3GHz 105W			
	128 x 16GB DIMM (16GB (1x16GB, 2Rx4, 1.35V) PC3L-12800 CL11 ECC DDR3 1600MHz LP RDIMM)			
	2 x Mellanox ConnectX-3 VPI Single-port QSFP FDR IB HCA			
	2 x Intel I350-T4 ML2 Quad Port GbE Adapter for IBM System x			
	2 x X6 Full-length I/O Book			
	2 x NVIDIA Grid K2 (Actively Cooled)			
	Post Warranty 2 Year Onsite Repair 9x5 4 Hour Response (5 year cover total)			

High Memory machines

- Two machines with 1TB of RAM each, accessible from Iridis, providing Red Hat Linux
    - ngcm01, 1TB of RAM, 48 cores
    - ngcm02, 1TB of RAM, 48 cores

- What can do with them?
    - run virtual machines on the server (virtualbox, vagrant)
    - use virtual machines for
        - for continuous integration
        - explorative computing
        - general purpose NGCM linux boxes

$\rightarrow$ Looking for team of students to provide training and services

Output data collection

Available at NGCM Wiki (i.e. `https://hpc.soton.ac.uk/community/projects/ngcm/wiki/Wiki`)

- Publications
- Talks and posters
- Software
- Seminars
- Outreach and other activities
- Media appearances
- Prizes
- Patents
- Other results

Finally

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    - explore technology: hardware, virtual machines, continuous integration
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- And enter output data into Wiki. Now.
  (save and reload often).