

DI

TechLab

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Annual Concurrency Forum Meeting, 2nd April 2014

- **Where to find us?**
 - Concurrency forum (<http://concurrency.web.cern.ch/>)
 - Twiki: <http://cern.ch/techlab>
- **Who are we?**
 - Very small number of part-time CERN IT staff from different groups
 - **Transversal** activity in IT
- **Aim at being a useful meeting point:**
 - Place where **hardware-software-people meet**
 - **Community-driven** (your input matters!)
 - Platform fostering and **supporting the adoption of multicore**

- **Constant daily usage, users from most experiments**
 - Spare capacity available on most platforms
- **We now have a two trends in the use cases:**
 - People wishing to **test** their code as a one-off ("**can it compile?**") or **benchmark** how much slower their current architecture is
 - People interested in **running** their code/service on a **regular basis** on new platforms, but not ready yet to invest fully (time + budget) or migrate
- **People largely interested in powerful **HPC** hosts or **GPUs****
 - **ARM** as well, in particular 64-bit

Hardware type	Specs summary
<u>iWARP 10Gb</u>	13 nodes with 10 Gb iWARP (will be upgraded to 40 and later to 60 nodes)
<u>Quad Socket SandyBridge-EP</u>	6 nodes, each with quad socket 8 cores SandyBridge-EP
<u>Intel Xeon Phi</u>	4 nodes, each with dual socket 8 cores SandyBridge + Xeon Phi 7120P
<u>Nvidia K20X GPU</u>	4 nodes, each with dual socket 8 cores SandyBridge + NVidia K20X
<u>Nvidia K20m GPU</u>	2 nodes, each with dual socket 8 cores SandyBridge + NVidia K20m
<u>Intel Atom S1260</u>	45 cartridges
<u>Intel Atom C2000 "Avoton"</u>	45 cartridges
<u>ARM A9 Calxeda SOCs</u>	4 independent ARM A9-based SoCs cluster

- **Positive feedback from users**
 - Techlab used to support the work in several presentations today
- **We could gain a lot by coordinating better!**
- **Users often report similar interests, concerns, and stories, some of which would be beneficial to others**
 - how to make AFS work on ARM, etc.
- **Have more coordinated approach to multicore within each experiment**

- **Continue...or not, depending on community interest**
 - **Happy** users, but **moderate** adoption so far
 - **Very good experience** for IT, but takes time from skilled experts
- **HEP Software Collaboration**
 - **Techlab certainly could help supporting the community**
 - HEP Software Collaboration meeting tomorrow
 - <https://indico.cern.ch/event/297652/>
- **Other areas of interest:**
 - Improve new hardware integration workflow within IT
 - Get involved in the HEPiX HS working group
 - Provide an alternative vision on performance/watt
- **What are the best means to...**
 - ...mutualise our experience?
 - ...share knowledge and recipes?