



Sharing Information, Dissemination and Training

“This is not a presentation”



Why this matters

- In the next 10 years our community has to go through deeper changes than the transition from FORTRAN to C++ and local batch to the Grid!!
 - Yes the world that we know is coming to an end
- This requires to rewire many brains!!
 - And wire new brains correctly from the start
- To do this we need to know what we want to put into these brains.

What is the problem?

- There is a lot of knowledge in our community
- Virtualisation
- Memory management
- Efficient numerical code
- The latest machine learning techniques
- Running sites efficiently
- I/O analysis and optimisation
- Network optimisation
- Parallelisation of code
- Performance analysis tools
- Advanced new features of C++
- Computing on FPGAs

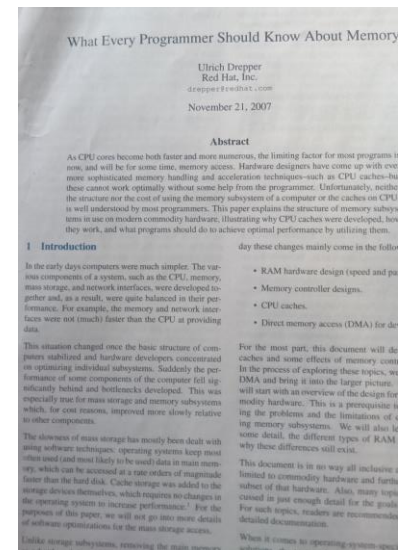
You name it, we've got it!!!!!!

Unless the person who knew it has left the community



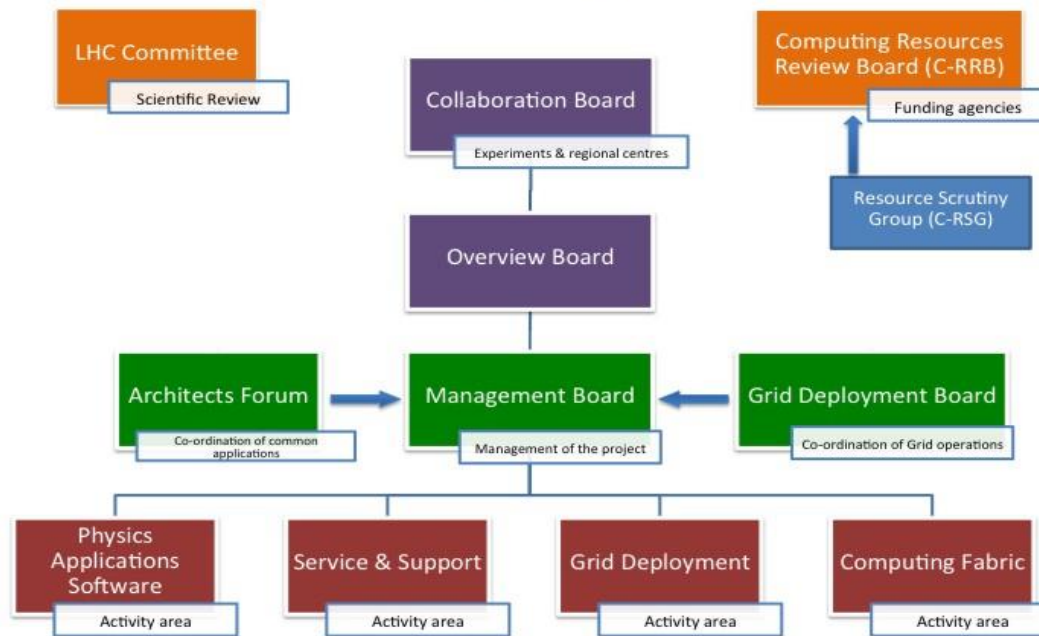
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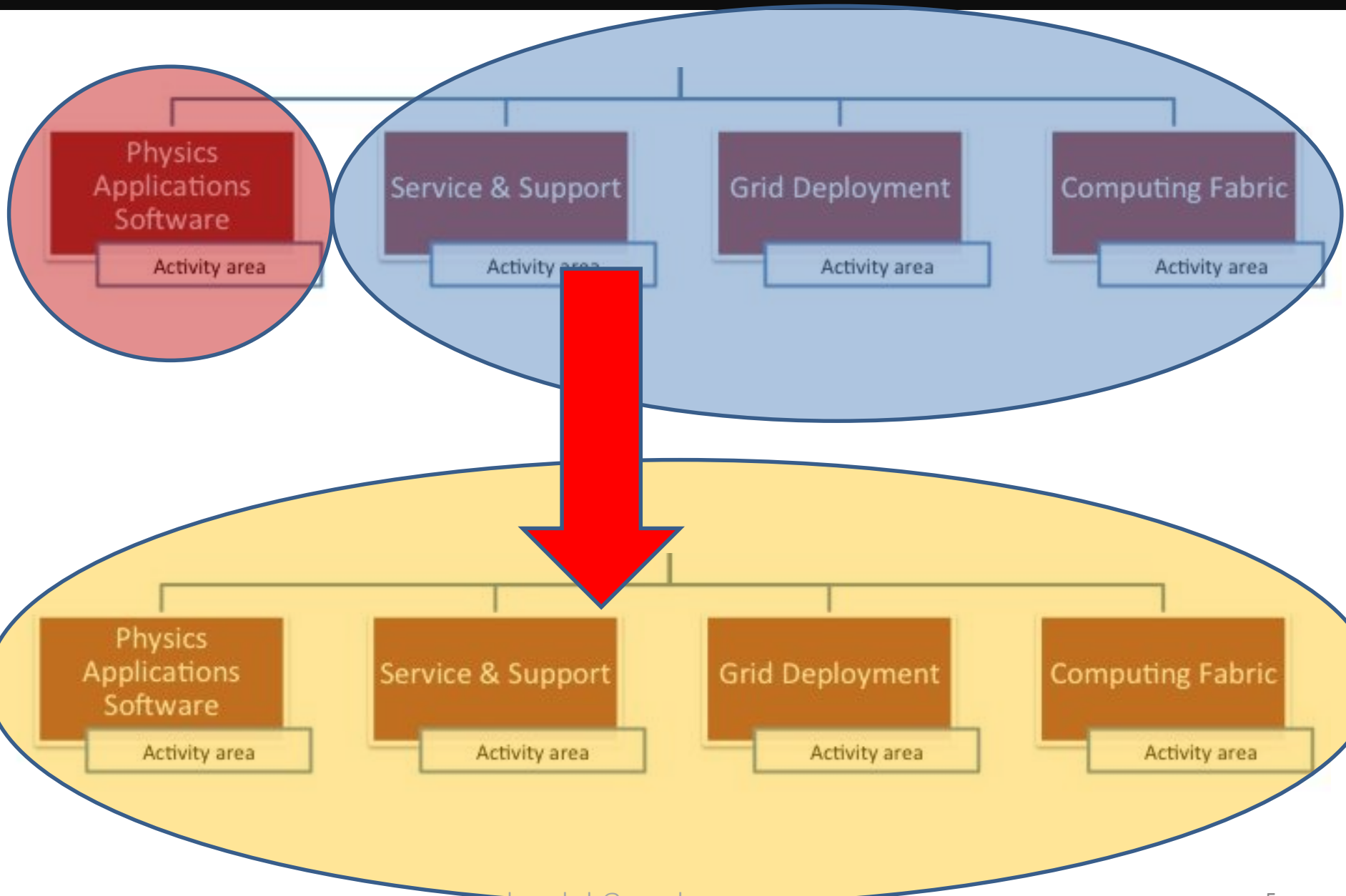
- The knowledge is not accessible in one place
 - Presentations at various meetings, conference schools etc.
 - Often from experts for experts
- Often in one or two people
 - Who are not always "easy" → less persistent
- Often not at the right level:
 - what every programmer should know on memory.... 100+ pages dense text
 - Then you are ready for the next...



- Online / offline
- Experiment A,B,C,D
- Software / Operations / Fabric
- **WLCG:**

Worldwide LHC Computing Grid - Organisation



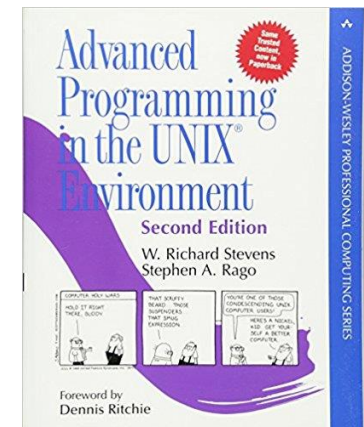
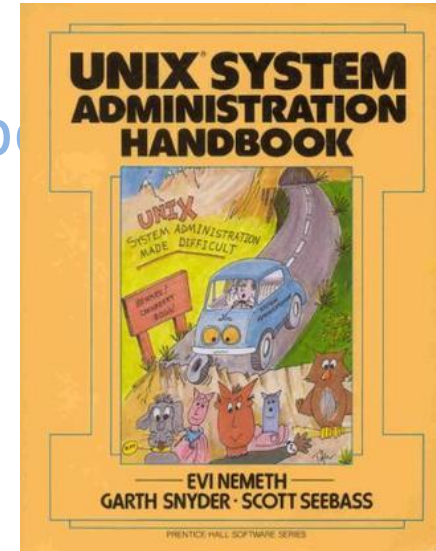




Summary

- As a community we have forgotten more knowledge about computing efficiency than most communities ever had!!!
- A lot of knowledge is fragmented
- Almost impossible to tell what is relevant and what isn't

- C++ was new and Paul Kunz the prophet from SLAC
 - C++ for Particle Physicists “just enough”
- Rene Brun gave us ROOT for object p... everything else
- There was GEANT
- For UNIX you had 3 books
 - + 2 from Stevens
- “canonical curriculum” at the CERN School of computing
- Very much in the form of recipes.....





- Develop a culture with a strong focus on efficiency
- Bring experts from **ALL** areas together and develop a new curriculum
 - One version for new members
 - One for updating old hands
- Collect information that has been “blessed” in a “library” (QA for information like stackoverflow.com)
- Make R3 experience from LHCb and ALICE accessible
- This cannot be done by HSF or HEPIX alone
 - Fabric and applications can be only separated at a cost → which we can't afford....



- Tell me!!!!