

GENERAL ITEMS

Heidi Schellman, Oregon State University

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Resource board meeting on the 14th

- Gave a talk – mainly emphasizing 2019-2021
- Summarize current use and estimates for future
- Results of a survey of national reps.
 - FNAL(US), CERN, FZU (CZ) and GridPP(UK) have reasonably firm estimates of what they can contribute
 - BNL/NERSC/ANL (US) are starting up
 - CCIN2P3 (FR) has put in a request, have #'s for 2019
 - NIKHEF (NL) , PIC/CIEMAT (ES) are starting negotiations (now online)

Reconstruction Projections (CPU not wall)

		2018	2019	2020	2021
		As built			
SP	Events, M	15.1	13.0	6.5	40.5
	Raw data, TB	1047	2239	1120	2799
	Reco data, TB	2094	4479	2239	5599
	CPU, MH	5.0	4.3	2.2	13.5
DP	Events, M	0.0	101.1	56.2	119.9
	Raw data, TB	0	809	449	1799
	Reco data, TB	0	1617	899	3598
	CPU, MH	0.0	33.7	18.7	40.0
total	Events, M	15.1	114.0	62.6	160.4
2x	Raw data, TB	2094	6096	3138	9197
	Reco data, TB	2094	6096	3138	9197
	CPU, MH	5.0	38.0	20.9	53.5
	total	4188	12193	6276	18394

Estimates of CPU needs

- In February
 - 3 M wall hrs/month observed for ProtoDUNE-SP alone (> 50% Analysis!!!)
 - This includes Analysis and inefficiencies
- Reasonable estimate is need for 6M wall hrs/month for SP+DP
- 72 M wall-hrs worldwide/year
- This translates into about 8,000 cores

Potential cores available

CPU core-yrs	2018	2019	2020	2021
	actual			
FNAL	1,244	3,500	3,500	4,700
GridPP	69	1,000	2,000	2,000
CERN	135	3,375	3,375	TBD
IN2P3	1	350	TBD	TBD
FZU	44	1,000	1,000	1,000
PIC/CIEMAT		50	TBD	TBD
NIKHEF		TBD	TBD	TBD
Total	1,493	9,275	9,875	7,700

2018 is averaged over full year, actual use was almost all in last 3 months

DISK

Disk, PB	2018	2019	2020	2021
FNAL	3.00	3.00	3.00	5.50
GridPP		2.50	2.50	2.50
CERN	2.40	3.00	3.00	TBD
IN2P3		0.01	TBD	TBD
FZU		0.30	0.30	0.30
PIC		0.04	TBD	TBD
Total	5.4	11.8	11.8	8.3

Report from WLCG/OSG/HSF meeting at Jefferson Lab

- Software carpentry workshop at FNAL from IRIS-HEP
 - <https://indico.fnal.gov/event/20233/> we may wish to request one for DUNE or at some other location.
 - Seems to have filled up but I note some DUNE people in the participant list!
- Discussion of evolution of WLCG
- Proposal to split resources and Scientific Infrastructure with SCI broader than LHC.
 - Ian Bird and Simone Campana
<https://indico.cern.ch/event/759388/sessions/295225/#20190318>

From the EU Strategy document

http://wlcg-docs.web.cern.ch/wlcg-docs/technical_documents/HEP-Computing-Evolution.pdf

In the 2020s we expect other high energy physics experiments, such as DUNE, and other sciences, such as astronomy (e.g. the SKA organization) to require a similar level of resources to LHC. In order to maximise the return on investment of the Funding Agencies it would be advantageous to foresee, where appropriate, a common infrastructure and set of tools serving the needs of the set of sciences they support. A close collaboration between WLCG and other communities will be required in order to maintain influence and help ensure the infrastructure is able to effectively meet the requirements of all stakeholders.

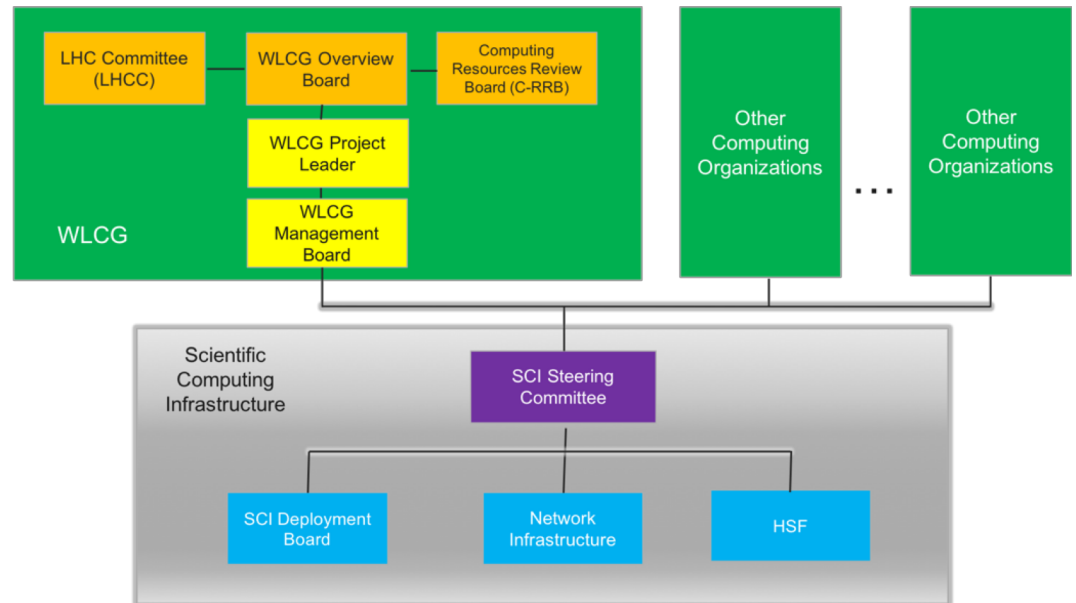
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We propose to evolve the existing computing infrastructure in a way that could benefit a wider HEP community: The Scientific Computing Infrastructure (SCI).

Scientific Computing Infrastructure Governance, Organization and Steering (Bird's slide)

- Governance must remain **science-led** and **lightweight**

- The Scientific Computing Infrastructure gets established, factoring out the aspects common to all organizations, as infrastructure and software
- WLCG collaboration retains the LHC specific aspects
- Other organizations implement their own equivalent



The Scientific Computing Infrastructure

(Bird's slides)

Driven by the sciences with a stake on the common infrastructure,
as part of the **Scientific Collaboration Steering Committee**

- The steering committee defines/steers direction, encourages funding, brokers needs on licensing, policies, joint procurements
- Members of the committee:
 - The heads of Information and Communication Technology of the major HEP laboratories being part of the Infrastructure
 - The computing project leaders from the major projects and experiments
- The committee reaches decisions by consensus, while a voting procedure would formally exist. It reports to the involved sciences through their representatives

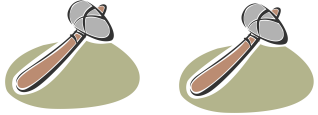
Initial steps (Bird's slides)

- Use DUNE as a first example
- Invite DUNE to GDB (~open anyway), MB as observer/associate (tbd)
 - Will need agreement of MB members
- Expect DUNE to set up their own computing organization and resource pledge/management process
- Evolve GDB towards the “steering committee” for the infrastructure
 - Will revitalise its role
- MB should eventually remain as a WLCG body but the steering committee should eventually take the decisions of the infrastructure/operation coordination
- Can initially do this informally – need more formality once DUNE moves towards production
- Assess/review how it works

Possible joint meeting

- DUNE computing meeting at FNAL July 8-12 to work on computing model
- Grid Deployment Board meeting July 9-10th at FNAL to overlap and bring interested parties together
- Follow with joint meeting at CERN in the fall?

Interesting Rucio discussion

- ATLAS metadata and dataset specification are less complex than we need. 
- Rucio now can support JSON objects in Oracle
 - In principle can load sam metadata into rucio directly
- Query ability not defined though
- Should we help provide either:
 - More sophisticated metadata plugin with best sam metadata features (leave out the bad ones)
 - Use native rucio facility and work on queries?
- This could be a useful contribution to the overall project.

Other cool stuff -- Trident profiling

ATLAS – Geant 4 MC Simulation – EU Port Utilization Analysis

