



Fermilab Computing Sector (CS)

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Inaugural Meeting of the International Computing Advisory Committee

14 March 2019

Charter of the ICAC

- Reviews and Advises the laboratory on:
 - computing operations,
 - cyber security,
 - upgrade plans, and
 - software and computing R&D aimed towards
 - the development and exploitation of future facilities
 - as well as advancing scientific tools and methods in general
- Monitor progress with respect to the established laboratory objectives, currently encompassing:
 - Software and Computing for the **Intensity Frontier** Experiments;
 - Fermilab's involvement in the **HL-LHC** Software and Computing Upgrades;
 - Progress toward **common solutions** for the above domains;
 - National and International cooperation and collaboration with partner institutions;
- The ICAC is expected to address high-level strategic, programmatic, and planning issues, rather than specific implementation details.

Goals for This Meeting

- Gather Advice on
 - Governance including interactions with international computing organizations
 - How to marry the DOE HPC strategy to the needs of international high throughput computing experiments
 - How to move forward with trust federation plans in the international computing ecosystem
- Familiarize the committee with challenges faced by SCD
- Help plot a way forward

Governance to address the Challenge

- Nigel asked me to think about what my top concerns are for Fermilab
 - Computing is funded from operations programs that are being squeezed in favor of projects
 - There was little facility funding for FY18
 - The demands for more from the growing program will create scarcity
- Given the above, we are embarking on these changes in governance
 - The Fermilab PAC wants us to have a WLCG style scrutiny group
 - We had portfolio management process in the past but that did not place enough **responsibility** on the experiments
 - **Evolve the local Scientific Computing - Portfolio Management Team into a Fermilab Computing Resource Scrutiny Group**
 - **Reports from these evaluations will be presented to outside panels like the LBNC and Fermilab PAC**

HPC Challenge

- The same thing is happening in many countries. Funders are no longer willing to build large computing infrastructures just for HEP.
- Other sciences don't have our pleasantly parallel problems and rely on super computers to advance their science.
- We are being asked to use these facilities because of the tremendous investment going into them.
- US-DOE is exerting even more pressure than international collaborators because of the reach to exascale and not just large peta scale facilities.
- What strategy can we pursue to meet this challenge?
- How do we get international collaborations to invest the efforts needed in their software?

Federated Identity

- For some of our computing issues, we aim to solve them globally shared resources
- Data federations can not exist without upgraded tools
- Can this committee make recommendation on future Authentication and Authorization Infrastructures?