Welcome and Overview

James Amundson

4th Meeting of the International Computing Advisory Committee

February 9, 2022

Welcome: Wish you were here

We hope that our *next* meeting will be in person!

- Fermilab is changing
  - New building: Integrated Engineering Research Center (IERC)
    - Work in progress!
  - New accelerator: PIP-II
    - Work in progress!

For now, Fermilab is still in maximum telework mode

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Status as of Winter 2022

Overview

- Part I: Authentication and authorization infrastructure
  - Known to be major concern from committee (and community)
  - Cover both policy and technical advances
  - Discussion
- Part II: Future of Fermilab storage facility
  - Covering material requested in previous meeting
  - Outlook and decisions to date
  - Plans
  - Progress

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Part 0: Response to additional questions and recommendations

The report noted that the reorganisation of SCD had only just happened, and thus ICAC did not discuss how it has helped at that time.

- The new organization has been in place over two years
  - Strengths
    - Communication between the division head and department heads improved
      - Eliminated intermediate "quadrant" layer
    - Communication between departments improved
      - Removed quadrant barrier
      - Weekly joint projects meeting spreads awareness of important projects across divisions
    - Department heads more empowered to make decisions
      - Moved decisions closer to the people at the front lines – encourages data-driven decision making
  - Weaknesses
    - Occasionally would like to have a single person in charge of some topics that cross department lines

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AI/ML

There was a recommendation on asking how the AI/ML work fed into SCD and Experiment needs.

- Many factors complicate AI/ML policy at the lab
  - AI/ML work is currently going on the Scientific Computing Division, Particle Physics Division, Accelerator Division, Applied Physics and Technology Division, and Theory Division
    - Coordinating body is led by Nhan Tran (SCD)
      - Does not have line management responsibility
  - Experiment use of AI/ML techniques is driven by experiment scientists
    - Only a few of whom are in SCD
  - Funding to date for AI/ML projects has been in the form of many small grants for very specific projects

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AI/ML continued

- A larger scale funding opportunity from DOE has been promised for four consecutive years
  - Latest news is that a real budget for DOE would have to happen in the next few weeks in order for the FOA to materialize in FY22
- We have repeatedly submitted additional funding requests to support production-level GPU systems to support AI/ML computing
  - Much encouragement, no funding
- Scraped together funds to order 12 NVIDIA A100 GPUs (10 TFlops) with FY21 funds
  - Waiting for fulfillment
    - May?
  - Will experiment with the best way to deploy these machines to support users
    - Mix of production and analysis facility uses anticipated

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