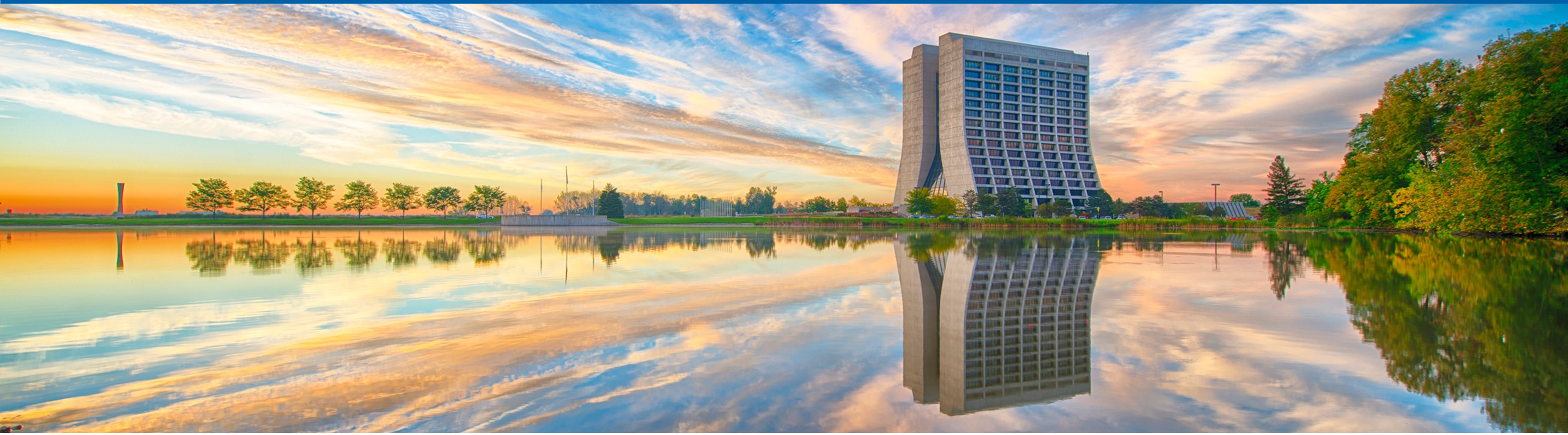

Introduction and Goals of the Meeting

Elizabeth Sexton-Kennedy

2nd Meeting of the International Computing Advisory Committee

15 October 2019

Welcome and Thank You For Coming

Fermilab

Computing Division Organization Chart

Approved: _____

Date: March 7, 2019

COMPUTING DIVISION
E. Sexton-Kennedy, CIO
J. Bakken, Deputy CIO

OFFICE OF THE CIO
J. Bakken, Deputy CIO
I. GAINES, CISO, ISSM
R. KAUTZ, SUPPLIER MANAGER
(A. WALTERS), DATA CENTER MANAGER
(J. YUNEN), SAFETY OFFICER

ADMINISTRATIVE SUPPORT
oor, Division
ministrator
. GALVAN
R. HURD
C. LLOYD

SERVICE MANAGEMENT
T. Whited, Service Manager
B. McKittrick, Deputy

PROCESS MANAGERS
(B. McKittrick), Group Leader
A. DONZELLI
(G. GUGLIELMO)
(M. KAISER)
R. SCOTT
POSTED OPENING R_002349

BUSINESS ANALYSTS
(R. Ramos), Group Leader
C. MCKENNA
R. SLISZ

BUSINESS RELATIONSHIP MANAGEMENT
R. Ramos, Group Leader
I. SHIU

COMMUNICATIONS
M. Teckenbrock, Group Leader
F. WANG
H. WARD

PMO AND OFFICE OF ENTERPRISE ARCHITECTURE
B. Boroski, Manager

PROJECT MANAGEMENT
(B. Boroski), Group Leader
M. CRAWFORD
T. DOODY
J. FAZIO
J. MARSH
L. SCOTT

ENTERPRISE ARCHITECTURE
K. Jacobs

COMPUTER SECURITY
(I. Gaines), Manager
(J. GALVAN)
POSTED OPENING R_002793

COMPUTER SECURITY OPERATIONS
J. Klemencic, Group Leader
W. BAISLEY
R. BENSINGER
J. GALVAN
K. HILL
J. ORMES
J. PUDELEK
A. LEE

INCIDENT COORDINATOR
(J. Galvan)

SCIENTIFIC COMPUTING INFORMATION SECURITY
M. Altunay, Group Leader
J. TEHERAN
Q. GONG

FINANCIAL MANAGEMENT
V. Sibley, Manager
R. CARRARA, DEPUTY
C. FRANK
G. GARCIA

SCIENTIFIC COMPUTING
vision Head
UTY
HEAD FOR CMS
S OPERATIONS
URCE MANAGER

CHNICAL ACTIVITIES
R SECURITY
PROJECT HEAD/FACILITIES
PATERNO), ASSISTANT HEAD/ R&D AND ARCHITECTURE
(A. NORMAN), ASSISTANT HEAD/SCIENCE WORKFLOWS AND OPERATIONS

SYSTEMS FOR SCIENTIFIC APPLICATIONS
Adam Lyon, Associate Head
M. PATERNO, DEPUTY QUADRANT HEAD FOR R&D
(E. BUCKLEY-GEER), DEPUTY QUADRANT HEAD FOR DAQ
(J. KOWALKOWSKI)
POSTED OPENING R_002905, R_001789

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PHYSICS AND DETECTOR SIMULATION
K. Genser, Group Leader
S. JUN
G. LIMA
S. MRENNA
A. PARA
H. WENZEL
J. YARBA
(P. CANAL)
(R. HATCHER)
(D. JENA)

MACHINE INTELLIGENCE AND RECONSTRUCTION
Kutschke, Group Leader
G. CERATI
J. CALDEIRA
A. HALL
B. NORD
S. BERKMAN
L GRAY
M. WOSPAKRIK
E. SNIDER
M. WANG
(G. PERDUE)
(A. TSARIS)

ACCELERATOR SIMULATION
E. Stern, Group Leader
Q. LU
T. ZOLKIN
(A. MACRIDIN)

NEUTRINO SIMULATION
L. Fields, Group Leader
R. HATCHER
D. JENA
(J. YARBA)
(S. JUN)
(G. PERDUE)
(S. GARDINER)

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S. KENT,

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P. GARTUNG
M. KORTELAINEN
P. RUSSO
(C. GREEN)

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CANAL
EEN

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K. BIERY

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C. STOUGHTON
K. TREPTOW
N. WILCER
T. ZMUDA

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J. FREEMAN
W. KITCHUM
P. DING
G. LUKHANIN
(K. BIERY)

DETECTOR ELECTRONICS
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(L. UPLEGGER), ASSISTANT GROUP LEADER
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J. CHRAMOWICZ
G. DEUERLING
R. KWARCIANY
(A. PROSSER)

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J. GRESKOVIAK
(A. PROSSER)

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(L. MICHELOTTI)
(T. ZOLKIN)

THEORY
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(S. MRENNA)
(J. SIMONE)

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J. MARRAFFINO
J. MARINER
L. MICHELOTTI
J. PEOPLES
S. WOLBERS
M. ZIELINSKI

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(J. GAINES)
(C. GREEN)
(C. JONES)
(M. PATERNO)
(S. SEHRISH)
(W. WU)
(L. ZHANG)

INTENSITY FRONTIER
(R. Kutschke), Lead
(G. CERATI)
(S. BERKMAN)
(M. WOSPAKRIK)
(P. DING)
(L. FIELDS)
(S. FUESS)
(D. JENA)
(W. KETCHUM)
(M. KIRBY)
(A. KREYMER)
(Q. LI)
(A. LYON)
(A. MAZZACANE)
(A. NORMAN)
(A. PARA)
(G. PERDUE)
(E. SNIDER)
(M. WANG)

MUON G-2
(A. Lyon), Group Leader
SAMUELTON

NOVA
(A. Norman), Group Leader
L. SOPLIN
TSARIS

CMS
(D. Elvira), Lead
(K. BLOOM)
(L. GRAY)
(O. GUTSCHE)
(A. HALL)
(R. HARRIS)
(B. JAYATILAKA)
(S. LAMMEL)
(D. MASON)
(M. CREMONESI)
(K. PEDRO)
(N. SMITH)

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M. KIRBY, ASSOCIATE DEPUTY HEAD

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P. Mhashilkar, Group Leader
D. BOX
D. DYKSTRA
D. HUFNAGEL
M. MAMBELLI
L. PADAVIKILA
S. RYU

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J. Boyd, Group Leader
S. BHAT
B. COIMBRA
V. DI BENEDETTO
L. GARREN
L. GOODENOUGH
K. HERNER
N. KUROPATKIN
K. RETZKE

SCIE TA PROC SOLUTIO
B. Yanny, Departm Head
S. LAMMEL

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E. VAANDERING, DEPUTY
I. MANDRICHENKO
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M. MENGEL
N. RATNIKOVA
B. WHITE

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Y. GUO
V. PODSTAVKOV
D. TUCKER
M. WIERSMA

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M. ACOSTA
P. JASAL
A. PARRA

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MAN, DEPUTY
GH, DEPUTY
MASON

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J. Simone, Departm Head
(A. SINGH), DEPUTY
K. SCHUMACHER
A. STRELCHENKO
R. VAN CONANT
(A. KULYAVTSEV)

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B. JAYATILAKA, DEPUTY
POSTED OPENING R_002317

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M. THOMAS, BUILDING MANAGER

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P. RIEHECKY
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C. BONNAUD
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S. GRAHAM
T. SKIRVIN
R. THOMPSON

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K. LARSON, ASSISTANT GROUP LEADER
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F. KHAN
H. KIM
N. PERELGONOW
S. TIMM

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TY HEAD
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C. MOHLER

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D. DAVE
A. DHIMAR
W. GAO
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(K. BRANDT)
P. CAMERON
R. PUTYRA

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D. LOWELL
T. PORTER
POSTED OPENING R_002234

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T. BOZOWELLOS
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S. GONZALEZ
A. ILIANSTROM

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Q. Healy, Group Leader
G. CLUTTS
R. ECKERT
C. SHEPPARD
K. SKAAR

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D. Green, Program Manager
L. BLOMBERG
J. GUMM
M. NOVAK
M. QUINN

MPS LEAD AND PRINT
R. Graham, Lead
J. TAFF
HARRIS TECHNOLOGIES

TECHNICAL OPERATIONS
D. Schuman, Lead
S. WILSON
GEM

DESKTOP SUPPORT
S. Arbogast, Lead
J. NELSON
J. MANPRASERT
K. RAMI
R. YOUNG

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J. McCoy, Lead
H. HERNANDEZ
J. MILETIC

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M. Miletic, Lead
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Y. JIN

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L. CARPENTER
P. DHANALA
P. GRAWENDER
N. HO
M. KAISER
R. REITZ
F. SOTRES
M. ZALDKAR

INFORMATION RESOURCES
H. O'Connell, Department Head
C. ARNOLD
K. DUERR

HISTORY AND ARCHIVES
V. Higgins, Group Leader
K. KEMP

LIBRARY
S. Lee, Group Leader
(M. CLEGG)
M. COOK
T. GRAUE WITT

CONTENT MANAGEMENT
K. Newton
M. ALSARAY
R. ATKINSON
P. CONSTANTA
L. MENGEL
K. MYLES
J. REISING
M. YAHYA

INSPIRE
(H. O'Connell), Group Leader
M. CLEGG
M. MILLER
K. SAUMELL
(R. ATKINSON)

NETWORK AND COMMUNICATIO N SERVICES.
R. Pasetes, Department Head
D. CODER, ASSISTANT DEPARTMENT HEAD
P. DEMAR

NETWORK SERVICES
A. Bobyshev,, Group Leader
V. GRIGALIUNAS
M. HAN
R. HEATH
T. NIEMIEC
M. SHEN
G. STONEHOCKER
D. WOHLT
POSTED OPENING R_002106

AUDIO AND VIDEO CONFERENCING
S. Cisko, Group Leader
F. BHIMJI

TELECOMM
(R. Pasetes), Group Leader
M. LEKANDER, ASSISTANT GROUP LEADER
J. BRANDT
E. KABBE
POSTED OPENING R_003107

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M. Rosier, Department Head
M. RENFER, ASSISTANT DEPARTMENT HEAD

STORAGE AND VIRTUAL SERVICES
B. Lawson, Group Leader
J. MORRIS
A. ROMERO
J. SYU
M. WOODS

DATABASE SERVICES
(M. Renfer) Group Leader
S. JOSHI, ASSISTANT GROUP LEADER
M. KUC
S. LEBEDEVA
M. NUNNA
O. VLASOVA

WINDOWS SERVER SERVICES
K. Fidler
R. HILL
A. HUGUENARD
S. SCHULTZ
POSTED OPENING R_001401

UNIX SERVER SERVICES
P. Lauss, Group Leader
J. KENWARD
S. KOVICH

WEB SERVICES ADMINISTRATION
P. Rzeminski, Group Leader
A. DURANCEAU
J. INKMANN
R. SIELOFF
P. WANG

Charge for the Committee

- The agenda is structured around the recommendations that this committee gave to Nigel and I at the inaugural meeting.
- For each recommendation we would like you to evaluate our progress.
- Is the amount of progress over the past 7mo. reasonable?
- Are there any course corrections you think we should make? or are we on track?

Recommendation Reminders

- Create a resources scrutiny group to review requests for computing resources and set priorities for allocations of resources between the experiments.

  - We are repurposing the SC-PMT to become the Fermilab CRSG following the CERN model
  - Advice from the committee about who to invite would be appreciated

- Computing funding for non-CMS resources is not ring-fenced and is part of the detector and operations funding, thus gets low priority. This results in years where no resources can be acquired, or old systems replaced, despite demands for computing resources continuing to grow. Consider how a funding line for computing could be separated to ensure a manageable budget. The consequence of not doing so will be a gradual deterioration of services and equipment.

  - Stu Fuess will address our current facility status

Recommendation Reminders

- A separate funding line for DUNE (as for CMS) would be useful in order to plan the resource profile appropriately. DUNE computing funding will need to be part of a long term plan and not subject to squeezing by other competing demands.
  - Discussion about pre-operations for DUNE with DOE program office has lead to PEMP Notable focusing the labs attention on creating a program that can be funded.
- Look at ways to speed up adoption of federated identity use as a building block of collaborative services, particularly needed for DUNE.
  - Mine will present the work done to date

Recommendation Reminders

- Draft a high level plan for the strategy of use of HPC resources. What are the main goals of the work in this area? What are the highest priority developments to enable success? The close relationship with ANL could be useful in setting out this plan, and perhaps a more explicit common project with ANL could be envisaged.

  - This has become the focus of the CCE proposal which I will discuss at the end of the day

- DUNE needs a strong computing collaboration with visible management. This was found to be very important for the LHC experiments in managing a global infrastructure and having a long term voice and plan. We recommend working with the DUNE computing management to encourage putting in place a clear management structure to interact with Fermilab and their other collaborating computing sites.

  - The DUNE Computing Consortium has been formed and is active

Recommendation Reminders

- DUNE should be encouraged to draft a computing model, in order that Fermilab (and other sites) can plan their facilities. A draft plan will highlight the areas that need R&D or testing. Such a draft should be produced this year to enable Fermilab management to plan their services and organisation.

  - You will hear the current status of the DUNE computing model from Heidi and Andrew

- Fermilab should have a plan for how it becomes an international laboratory for DUNE, what collaborative tools will be provided, etc. The plan should clarify the responsibilities of Fermilab as a host lab, and as part of the computing model.

  - Stu will present the results of many discussions on this topic

Recommendation Reminders

- The future storage strategy requires particular attention. In particular, a vision and a roadmap is needed to address the needs in the Public cluster and a plan should be elaborated to address concerns over the sustainability of Enstore, possibly by adopting a solution with greater support in the community.

  - Bo will talk about the current state and challenges of our storage systems

- A plan to harmonise the three separate components of the facility should be created, to avoid unnecessary duplication of both staff effort and hardware solutions, recognizing the practical difficulties of achieving this quickly.

  - The vision for harmonisation of CMS, LQCD, and IF is through the Institutional Cluster
  - We are moving more strongly into a service model for Fermilab experimental programs
  - You will hear more about it from Stu

Recommendation Reminders

- A big picture strategy for the software R&D should be made, in order to understand how the (many) various projects fit into the overall strategy of SCD in answering its challenges. In particular such a plan can be used to ensure that funding opportunities are actually focussed on priorities. The plan should benefit from leveraging work that is happening in the field outside of Fermilab, for example in the HSF, and projects such as IRIS-HEP.

  - CompHEP is the major component that is not competitively funded and that saw a 67% *cut* in the initial FY20 budget. We are scrambling to recover that. Projects affected are Geant and Storage R&D.
  - As was discussed last time we have many competitive grants of funding
  - Adam will talk about how we have restructured these efforts into an overall strategy for SCD
  - Many of us will participate in the next IRIS-HEP blueprint workshop at CAU

Recommendation Reminders

- Within SCD we recommend that CMS and other projects should be less stovepiped. This is a source of duplication of effort and inefficiency. This must be avoided for DUNE. Facilities and services should be as far as possible common across supported experiments, focussing on function rather than specific requested solutions. We encourage the computing management to continue to re-evaluate the organisational structures in the light of constrained resources and with an eye to the evolving needs of the lab and the experiments.

  - Jim will present reorg.

Recommendation Reminders

- It is essential to have an open, collaborative scientific environment, based on federated identities and trust with other national and international partners. For this reason, ongoing separation of business and open scientific environments is important and must be actively continued.

  - Phil will give a network overview that includes a status report on this issue

Recommendation Reminders

- We suggest to investigate having a coherent programme of summer students (or graduate students?) as a potential source of new recruits. Potentially in partnerships with universities, particularly local ones such as University of Chicago where many links exist. Having students and R&D illustrates some leadership capabilities.

  - We do have a Fermilab Computational Science graduate student intern program