CCD Highlights

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Computing All-Hands

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What has CCD done for you recently (within 2 mo)

- FOP (Facilities Dept.) has provided outstanding data center availability.
  - Last unscheduled outage – March 2016 – the sitewide ComEd power outage
  - Last outage was in July 2017.
  - This record didn't happen without lots of mitigations and off-hour responses by FOP to keep things running smoothly.
  - We must schedule an FCC2 outage to remove an old UPS unit – July 21

- FOP is proactively "green"
  - Eighth year in a row for earning EPA's Energy Star award for GCC.
    - Means GCC uses 35% less energy than similar buildings across U.S.
  - FCC Bldg. – Temps are now configured centrally during off hours. You can regain control if you are in FCC by accessing your thermostat.
  - Installed Variable Speed Fans in FCC2 – 3-4-year return on investment!

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What has CCD done for you recently (within 2 mo)

- With Finance and FESS, NCS (Networking Dept.) has launched an extremely complicated RFP that will replace the 1980's 5ESS telephone switch and begin to modernize the lab's phone system.
  - Seventeen vendors participated in the pre-bid meeting.
  - Technical review of vendor RFP responses will be finished by June 19.

- NCS & Computer Security, has deployed a default-deny site firewall
  - No interruptions to scientific traffic during the rollout!

- NCS has upgraded the WH routers to provide more bandwidth and 10-Gb uplinks.

- NCS has moved 211 phones off the 5ESS and onto VoIP.
  - Cisco Jabber – is a very convenient app to manage your VoIP phone and provide solid IM service
  - **I require all CCD to be available on Cisco Jabber when they are working, including when they are working remotely. (OCIO soon)**

What has CCD done for you recently (within 2 mo.)

- EAO (Enterprise Apps Dept.), with FESS, has deployed a Self-Service Property Portal that eliminates paper and automates many common property functions such as equipment transfers.

  – This has been a very popular app.

- EAO, with Finance and OCIO's Project Management Office, has rolled out Release 2 of BPS (Budget & Planning System).

  – Computing will use current system for FY19 budget formulation, but the data will be entered into BPS by our Finance team, and we will all move forward using only BPS from then onwards.

- EAO has rewritten FermiDash framework, and our DOE site office agrees it is a great step forward.

  – We all now need to start working on KPI dashboards for Chiefs+DOE, and operational dashboards for ourselves.I will be calling a meeting and will need CCD, SCD and OCIO leads to help us move forward.

What has CCD done for you recently (within 2 mo)

- ESO (Essential Services Dept.) moved CDF and D0 databases off Solaris/Compellent to Linux, and then offsite
  - Computing support has ended for these 2 previous flagship experiments

- ESO transparently moved over 50TB of Blue1 file server data to new hardware for more reliable service.

- BIN (Business Infrastructure Dept.) has rolled out a new ServiceNow portal.
  - Major improvement over old system

- BIN deployed a ServiceNow workflow engine to support SCD's Ferry project.

What has CCD done for you recently (within 2 mo)

- IR (Information Resources Dept.) has upgraded Indico to V1.2, the latest CERN release.
    - Allows us to integrate our Single-Sign-On into Indico
    - Allows us to extend Enterprise Search into Indico content
    - In the spirit of collaboration, CCD now provides Indico service for ANL.

- Policy: All slides and posters for external distribution must be given IDs and sent to DOE, the same as written technical papers.
    - IR has worked extensively with Fermilab's Export Control, Patent, etc., offices to understand DOE's requirements regarding Technical Pubs.

- SOS (Service Operations) has re-enabled weekly scanning on Macs
    - This is necessary and part of our security plan.
    - Team is still working on improvements to reduce CPU load

- SOS proactively found SurfacePros with defective batteries and replaced them; also pushed out a firmware fix to eliminate the problem.

What will CCD do for you soon?

- Deploying a third 100-Gb offsite connection providing increased bandwidth for scientific data movement

- Big Data Express Research project
  - Worldwide interest in deployment – Korea, Oak Ridge, Princeton Plasma Lab, Internet2, International Center for Advanced Internet Research
  - Commercial interest as well – Ciena and Data Products, LLC

- Electronic Payments to employees for reimbursements
  - No more paper checks
  - Reimbursements will be sent to your primary direct deposit account.

- Expanding Authentication mechanisms to simplify user experience:
  - Kerberos: FNAL.GOV, Kerberos FERMI.WIN.FNAL.GOV
  - Services based CILogon certificate
  - CERN certificate authentication methods

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What will CCD do for you soon?

- Deploying an integrated Site Access & Badging system to comply with DOE requests

- Deploying a Work Planning & Controls system, and central repository
  - System will be driven by business processes
  - Will manage approvals/notifications
  - Eliminates most paper forms

- Deploying electronic approval for monthly lab cell phone invoices
  - Paperless, except for few unusual cases which won't be handled in the first release

- Setting up a Library Advisory Committee
  - Advise the Library in the selection of information resources to support the mission of the lab.
  - Bringing together committee members from diverse disciplines & sectors to evaluate & prioritize information resources.

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What will CCD do for you soon?

- Adding Single-Sign-On authentication to DocDB

- Migrating off end-of-life storage and switch hardware to recently purchased systems
  - Provides faster access and more reliable service

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Computer Security (OCIO)

- Our lab is scanned by potential attackers at a rate of over 220 million hits per day.

- Despite implementing a default-deny firewall, phishing remains the prominent method to attack an organization as no scanning is needed.

- Statistically, phishing remains as one of the primary means to compromise an organization
    - 91% of cyber attacks start with phishing email [1].
    - Notable compromises have been accomplished via phishing, from other DOE labs [2], to Sony [3], to the Pentagon [4].

- Clicking on a suspicious link in an email has serious consequences, not only for yourself, but for the lab as well.

[1] https://www.darkreading.com/endpoint/91--of--cyberattacks-start-with-a-phishing-email/d/d-id/1327704
[2] https://www.computerworld.com/article/2510012/malware-vulnerabilities/second-doe-lab-is-likely-victim-of-spear-phishing-attack.html
[3] https://www.tripwire.com/state-of-security/latest-security-news/sony-hackers-used-phishing-emails-to-breach-company-networks/
[4] https://www.engadget.com/2017/11/03/ap-investigation-russia-hack-dnc-clinton-emails/

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Takeaways

- CCD services underpin both scientific and business services. We help the entire lab get their work accomplished.

- Keep alert for phishing attacks. They are becoming more sophisticated and often contain some type of "inside information" – Don't click without stopping to think!

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