# Infrastructure Technologies Advisory Group

Notes

# April 4, 2019

# **Present:** Doug Flowers, Franklin, Ed, Daniel L, Vijay, Josh, Billy Beaudoin, Dan D, Debbie, Tony, Aaron, Greg S, David, Greg J, Shawn Dunning, Dan Grigg, Keith, Jill, Mark, Chris, Pat

# **Welcome**

Reminder: Google group… [group-intag@ncsu.edu](mailto:group-intag@ncsu.edu)

**Staffing Update**

**Campus Network**

* Cisco VPN upgrade - Completed 2/20
  + Lab environment set up and now ready for 2FA testing
    - Test group provided by CITD
      * Dan Green
      * Billy Beaudoin
      * ITECS - Lorenzo Watson, Ryan Hoekstra
      * Tih-Yuan Wang, twang2 (Design)
      * Nathan Snodgrass (Extension)
      * Libraries?
      * HPC/VCL (Eric/Andy K./Lisa Lowe/Josh T.)
      * OIT S&C: Darren Fallis & Kerry Digou
      * Help Desk/OITMD - Nik Davlantis
      * Brian Fields - CALS/CAAT
      * Chris Bettini - CVM
    - Concerns raised about the impact this will have for international travelers - ie, making sure they have a second factor with them
  + Full tunnel will go live after 2FA is implemented.
    - Could IT staff request on behalf of end user and then have form route to user to accept policies? Good news: Users or admins can submit form. Bad news: mappings aren’t there to reliably implement notifications to admins when users submit. Will take a cursory look to see if there are alternate data sources to map users to depts/admins
* Centrex Replacement
  + NMDF - transition should begin over next 2-3 months
  + SMDF - cabling ~80% complete, transition late summer
  + CMDF - being designed
* Backbone updates - Investigating requirements and implementation standards
* AFTC infrastructure lab expansion/upgrade - finished
* Redundant fiber entrances - SMDF zone - design in progress
* I-440 widening project - latest projected start Spring 2020 - will require significant fiber work. Resilient route added last year is expected to mitigate impact
* New ISP contract for non-University tenants - bids have been awarded (Spectrum and Century Link - both incumbents remain)

**Access Layer**

* Big Layer Two (BLT) project designs - academic buildings done, 46/61 admin buildings (75%) - Target date for completion: summer 2019

**Data Center**

* DC1 Decommissioning
  + First round of equipment for testing is operational
  + Expecting production ready environment May/June
  + Target date for completion is under review (previously Dec 2019)
* Interior Layer 1 (fiber) standard - vendor selected - Siemon
* Rack PDU - vendor selected - Eaton
* Intake processes being refined
* Cost model for rack space being refined

**CATV**

* Planning to continue existing service for 2019-20 academic year.
* Working with Housing on services plan for post 2019-20.

**MDFs**

* NMDF (Poe) - requesting funding authority in May BoG for elec/mech upgrade.
* Poe. No date yet for push to remove non-ComTech equipment but will be after processes are in place for hosting non-OIT equipment in DC2/EDC
  + Intake process and cost model expected to be complete by this summer
* Lake Wheeler MDF - Design study in progress.

**Infrastructure Records**

* Fiber inventory - OSP cables - complete, inside cables (9%)
* New PLA ground wireless maps 519/3100 AP’s done (17%).

**Building Infrastructure Projects**

* Design – Research 3, Polk, Fountain, DH Hill 2-4 fl.,V4-GTI, Partners 2, Hodges
* Construction – CVM Main, Dabney, Brooks**,** Butler, Weaver Labs, CMAST, Patterson, Lambda Chi Alpha

**Cellular/mobile**

* Indoor - Spidercloud - 6 buildings - construction start in the next few weeks
  + Spidercloud LAA (licensed assisted access) - will do trial in Hillsborough.
  + List: [SpiderCloud](https://docs.google.com/spreadsheets/d/16ZpdmpP7JNH1_P2tvzCISjmNXMzE-VyaEY1KrZv3uPc/edit?usp=sharing)

**IT Strategic Planning**

* 4/16 meeting to polish initiatives matrix
* Service Planning
  + CMDB - discovery process is ramping up
  + Change Management - team has submitted plan and will begin as soon as we recruit new change mgmt position

**Unified Communications**

* Partner Updates: UNCG, App State, NC A&T, Pembroke
* Life Safety rollout -- VOIP equipment to be installed in SMDF, CMDF

**Systems & Development**

* Tools Updates
  + PCI Device tracking automation SNOW integration
  + Infrastructure Records EPIC-DC
  + NetDisco2 migration, legacy decommissioning

## Wireless

* Classroom wireless
  + [Classroom Coverage](https://docs.google.com/spreadsheets/d/1EM_YfPCHXV7BNHRdlUaj0_x6E75tMZblSppfhlmfJgQ/edit#gid=2136708155) - current list
  + 4 out of 237 110-classrooms remain.
  + Future: need to begin discussion on [210 classrooms](https://docs.google.com/spreadsheets/d/1yVdsyNn6NCxZP0-EqBjrgDTIbVt40nwf_-fps2aLG1I/edit#gid=1005195878) funding
* What to do with buildings never designed?

Academic/Research buildings

512 Brickhaven

Toxicology

Butler

Varsity Research

Grinnells

Research Annex (west campus near beltline) - 15 buildings

Ellis Labs

CVM Outbuildings (15 - 20 buildings)

Tenant buildings with NCSU research groups (maybe)

Partners 1,2,and 3, Venture 1,2,3,4,Place, Keystone, CTI, Poulton

* Stafford Commons/Wolf Plaza - hiring designer
* Beacon focus group - met 2/27/19 - pace of needs and technology appears to be aligning well
* EDUROAM (secure SSID) -
  + [Wifi.ncsu.edu](http://wifi.ncsu.edu) is now live with links to SecureW2 for eduroam
  + Need to determine best plan for migrating Cloudpath customers over to SecureW2.
* Now tracking wireless metrics as part of overall [monthly metrics](https://oit.ncsu.edu/campus-it/campus-data-network/communication-technologies-metrics/)
* In process of purchasing CAPE sensors for wireless troubleshooting.

**Storage Infrastructure**

* Tony Copeland and Aaron Peeler met with various units to discuss current storage offerings and gather input on those and potential gaps. Summary of discussions will be forthcoming.
* EMC 7600 arrays(DC1&DC2) reached the end of the warranty period, moved them to 3rd party hardware only support.
* Funding & hardware received for new EDC Unity AllFlash array(DC1 replacement)
* Additional Funding & hardware received to expand DC2 Unity AllFlash array to fully replace DC2 7600. Team is actively migrating data
* NAS Migration(DC2 Isilon) - in the early stages of the NAS migration project, working the OIT-TSS and other teams for file structure layout
* Funding received for EDC Isilon - waiting on D@RE in DC decision before moving forward
* Unity cell transfer to AuriStor is complete. Working on bp, then will begin move of eos cell data into the new AuriStor cell

**Server Infrastructure**

* HCI infrastructure testing underway at EDC
* Collecting quotes for HCI expansion
* New servers for ERP farm at EDC have been received
* PS upgrade schedule may stretch resources very thin at some points during 2019

**Software Infrastructure**

* Reminder: VMware license - joining UNC SO agreement - metered use, annual payment instead of 3-year agreements - need to decide how to handle FY2018-19 license renewal (current license ends ~March)
* Continuing to push Oracle on Java (JDK) license - without any concrete results to date

### Governance Revamp

### Mechanics working group finished and delivered framework and suggested charters

### SITC being formed with goal of launching in the fall

### Still need to figure out future of ITSAC-I and any relationship to this group

* + Quarterly?? More of a ComEx?

**Budget**

* Chasing one-time funds for servers, storage, data center move expenses
* Planning to pass-through cost of AT&T centrex service beginning July 2019 - have shared list of lines with CITD

### Parking Lot Items

* Routing licenses at the BDF level – when and how much should occupants pay? Interim solution is 50/50 when “desired”, ComTech funds when required
* “virtual data center” – 4/5/18 conversation confirms there’s still some need for “flat” networks (even outside the data center)

## Upcoming Meeting Dates

* Next InTAG Meeting – May 2, 2019

February To DOs:

* Determine options for moving folks to Secure W2 (can AD certs be used?) - Greg J/Billy
* Do wolfcopy machines used for faxing utilize VOIP or centrex?(Joe) - Greg S
  + 2/11/19 update - any wolfcopy should be utilizing voip as should any fax machine (technical issues were resolved) - any that aren’t can be moved over to maintain the $8/line/month voip cost
* Share info about centrex lines with IT folks (Mark and others) - Greg S/Taylor
  + 2/11/19 update - we’ve added producing this info to the “to do” list for our PCR team and will share when complete