# ` `Infrastructure Technologies Advisory Group

Notes

# February 6, 2020

# **Present:** Josh Jury, David Ladrie, Josh Gira, Keith Boswell, Greg James, Jim McKoy, Mark Williams, Chris Alle, Shawn Dunning, Andrew Kotynski, Mike Kastellec, Franklin Finch, Kevin Lee, Ed Rogers, VJ Tailor, Chris Bettini, Aaron Peeler, Daniel Deter

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

**Staffing Update**

* Anthony Santucci has joined OIT as the change manager

**Campus Network**

* Current firewall project is the site to site hardware upgrade - Site migrations have started and will continue for the next few months
* Developing a solution for remote site connectivity outside of Wake County
* Now focusing on core firewall upgrade - testing in the lab has begun with Palo Alto
* Next generation edge switches - Cisco is front runner, but still waiting on some final numbers from Cisco
* Testing new Internet gateway equipment for future implementation - Nexus 9336
* Cisco VPN Anyconnect upgrade - Completed with full tunnel and 2FA enabled on all groups except student.
  + 2FA will be enabled for student VPN group on 2/20
  + Contemplating options for workshop accounts
* Life Safety Centrex Replacement
  + NMDF and SMDF zones - planning cutover
  + CMDF - construction in progress
* Backbone updates - Investigating requirements and implementation standards
* Redundant fiber entrances - SMDF zone - Wolf Village construction in Dec
* Hillsborough St. crossings - waiting on City of Raleigh easements

**Access Layer**

* TUNAMELT project - 3560x switches - designs completed (26%)

**Data Center**

* DC1 Decommissioning
  + EDC Production ready. Various teams are actively migrating vms
  + Target date for completion is currently April/May 2020 - slid a month from last update due to issues with optics/cables at EDC
* EDC - working on phase 2 infrastructure
* DC2 Elec/Mech upgrade - designer selected
* General service offering for colo late Spring/early Summer
  + Poe tenants early access (Feb...ish)
  + Intake processes being refined
  + Cost model for rack space being finalized - [current draft](https://docs.google.com/spreadsheets/d/1MQhV3Q25NK4AuoIJWamuWuV-yl7auDlI6IqyqLAdaUg/edit#gid=826436317)
  + Special challenges of tape libraries - need to change tapes on a regular basis, etc

**CATV**

* New contract for streaming/CATV combo for 20/21 school year awarded to Apogee.

**MDFs**

* NMDF - design in progress elec/mech upgrade.
* Lake Wheeler MDF - working on Space Request to OUA

**Infrastructure Records**

* Outside plant inventory project started
* New PLA ground wireless maps (95% complete)

**Building Infrastructure Projects**

* Design – West Dunn, Materials Mgmt, Sigma Kappa, Zeta Tau Alpha, Carmichael
* Construction – Dabney, Polk, DH Hill Academic Success, Partners 2, EH&S, Kappa Alpha Theta,

**Cellular/mobile**

* Indoor - Spidercloud - Talley almost done. Next group in negotiation with new VZW team
  + List: [SpiderCloud](https://docs.google.com/spreadsheets/d/16ZpdmpP7JNH1_P2tvzCISjmNXMzE-VyaEY1KrZv3uPc/edit?usp=sharing)

**IT Strategic Planning**

* Mostly in a hold pattern awaiting next University Strategic Plan - will continue to meet 3-4 times annually to track updates on key initiatives
* Service Planning
  + CMDB - discovery process is ramping up

**Unified Communications**

* Partner Updates: UNCG, App State, NC A&T, Pembroke
  + Centrex line inventory and reconciliation
* New Partner Development: NC DIT -- Tools, Training, Support
  + Supporting cuts
* Life Safety rollout
* Phone replacement of 6900, 7900 series phones
  + softphone only option for certain users?

**Systems & Development**

* Tools Updates
  + Moving to Docker Containers
  + Eduroam with AD Certificates / Radius
  + Service Now Integration
    - Automated incidents for audit tracking
    - Linking incidents to equipment from CMDB
* Thresholds and Alerts
  + Monitoring remote links
  + Proactive equipment failure
* New version of the PLA ground is live
* Mobile management tool for Life Safety lines

## Wireless

* Wi-Fi 6 Project in planning. Prioritization ballot coming.
* King Village wireless - summer 2020
* LAN Admins raised a use case for non-enterprise APs - how prevalent/legit is this need?
* Classroom wireless: [210 classrooms](https://docs.google.com/spreadsheets/d/1yVdsyNn6NCxZP0-EqBjrgDTIbVt40nwf_-fps2aLG1I/edit#gid=1005195878) list mostly complete - will need to determine funding
* Outdoor Wireless: working on Wi-Fi pole model
* Beacon focus group - met 2/27/19 - pace of needs and technology appears to be aligning well - will meet again roughly same time 2020
* EDUROAM (secure SSID) -
  + [Wifi.ncsu.edu](http://wifi.ncsu.edu) is now live with links to SecureW2 for eduroam
  + AD certs - Working in lab, need to change the ID format for it to work outside of NC State.
* Now tracking wireless metrics as part of overall [monthly metrics](https://oit.ncsu.edu/campus-it/campus-data-network/communication-technologies-metrics/)
* In the process of purchasing CAPE sensors for wireless troubleshooting.
  + Sensors ordered, looking at creating a troubleshooting kit with CAPE sensor and spectrum analyzer. Also need to look into a handheld analyzer.
  + Look at practicality of loaning out to departmental staff

**Storage Infrastructure**

* NAS Migration
  + On-track to decommission DC1 NAS arrays in March if not sooner.
* NCSUdrive: B-drive migration project:
  + Completed
* Research storage allocation methodology is changing:
  + 1TB per faculty researcher
  + Allocations for awarded grants based on grant requirement and retention based on data management plan - so far as practicable will not charge.. however, beyond some amount there will have to be some cost recovery - hopefully will be clear ‘unlike circumstance’ and be able to pay from direct grant funds
* Proposal being forwarded to ORI for some additional research storage resources; increased curation support from Libraries, additional security analyst, additional systems position for storage refresh in 2021 (would also provide backup to HPC systems position)
* AFS to AuriStor - BP cell migration into Unity is complete. Working on converting EOS to AuriStor. To speed up the conversion process, initial work is focusing on converting to AuriStor while keeping separate UNITY and EOS cells.

**Server Infrastructure**

* Purchased remaining EDC server infrastructure to complete DC1 migration
* Evaluating Dell Blade in lab

**Software Infrastructure**

* Legacy Realm Linux infrastructure decommission - Wednesday, 02/05/2020

<https://sysnews.ncsu.edu/news/5e398711>

* VCL - Azure Windows Virtual Desktop (WVD) proof of concept.
  + Continued work in creating Azure WVD instances to migrate student windows applications from VCL due to increase of MS VDA licenses
* VDA dependency outside of VCL - Student RDP into research or lab machines.
  + [This Google sheet was created to get an estimate on the overall VDA license need on campus](https://docs.google.com/spreadsheets/d/1bltTnkH_yUZBfRI6wJmdfXpVLPsJUItk012iGq08fPI/edit#gid=0). Please provide estimates for your area so that we can move the conversation to the next stage. At some point, we have to make a decision whether to drop campus-wise VDA license.
  + It’s not clear folks understand the scope of need given responses thus far
  + Based on the limited needs from various colleges on VDA licenses for students, VCL is working to utilize Azure WVD so that the university can stop campus-wide VDA licenses
  + Will colleges manage individual VDA licenses on their own, or going through OIT Software Licensing to get individual VDA license (and ensure compliance) after that?

### Governance Revamp

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

* + Quarterly?? More of a ComEx?

**Budget**

* Reminder: Centrex lines are now being billed to departments at actual cost - have shared a list of lines with CITD. Current contract ends December 2020 and prices are expected to rise to at least $40/line/month. Working to migrate lines ahead of that unless technical/compliance constraints.

### 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 – March 5, 2020