# Infrastructure Technologies Advisory Group

Notes

# March 5, 2020

# **Present:** Gary, Kevin, Ed, Dan D, Aaron, David, Josh J, Greg J, Josh G, Keith, Daniel L, Mark, Debbie, Andy K, Joe, Shawn, Mike K

# **Welcome**

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

**Staffing Update**

**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 - sticking with Cisco - new architecture will be discussed at LAN Admin meeting - will cost for port activations go down?
* Testing new Internet gateway equipment for future implementation - Nexus 9336, going live with one gateway this Sunday
* 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 - completed
  + Contemplating options for workshop accounts - will get new IP space on 3/24
* Backbone updates - Investigating requirements and implementation standards
* Life Safety Centrex Replacement
  + NMDF and SMDF zones - 1st cutover next week
  + CMDF - construction in progress
* Redundant fiber entrances - SMDF zone - installing racks, eqpt.
* Hillsborough St. crossings - On Raleigh City Council meeting agenda Mar 17

**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 May 2020
  + EDC - working on phase 2 infrastructure
* DC2 Elec/Mech upgrade - designer selected
* General service offering for colo - Summer
  + Poe tenants early access (likely May timeframe but shout if immediate need)
  + 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**

* Working with Apogee on streaming/CATV combo for 20/21 school year.

**MDFs**

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

**Infrastructure Records**

* Outside plant inventory project started
* New PLA ground wireless maps (100% complete)

**Building Infrastructure Projects**

* Design – Materials Mgmt, Sigma Kappa, Zeta Tau Alpha, Alpha Delta Pi, Carmichael
* Construction – Dabney, Polk, DH Hill Academic Success, Partners 2, EH&S, Kappa Alpha Theta, West Dunn
* UPS RFP - being written

**Cellular/mobile**

* Indoor - Spidercloud - Verizon certifying 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 - have started a lessons learned document
* Service Planning
  + CMDB - discovery process is ramping up
  + Considering when to implement Event Management

**Unified Communications**

* Investigation options for spam blocking and text messaging
* Renewing Cisco EA, possibly with other schools for bulk pricing
  + 1.4MM in 2015 (5 year license)
  + 3.2MM list price, 2.2MM price with credits/discounts
  + Aiming for 1.7MM
* Partner Updates: UNCG, App State, NC A&T, Pembroke
  + Centrex line inventory and reconciliation
* NC DIT -- Tools, Training, Support
  + Supporting cuts
* Life Safety rollout
  + First building next week -- Poe
* Phone replacement of 6900, 7900 series phones
  + softphone only option for certain users?
    - Low volume callers
    - Softphone by default but option to come get a phone and self deploy if a handset is desired
  + Any legal requirement for a phone in office/hallway/etc?

**Systems & Development**

* Tools Updates
  + Moving to Docker Containers
  + Eduroam with AD Certificates / Radius
  + Service Now Integration
    - Automated incidents for audit tracking
* Thresholds and Alerts
* Mobile management tool for Life Safety lines
  + Adding Fire Alarm Dialers to database

## Wireless

* Wi-Fi 6 Project - testing at David Clark Labs. Prioritization ballot ready
* King Village wireless - summer 2020
* Classroom wireless: [210 classrooms](https://docs.google.com/spreadsheets/d/1yVdsyNn6NCxZP0-EqBjrgDTIbVt40nwf_-fps2aLG1I/edit#gid=1005195878) list mostly complete - will need to determine funding - what’s the cost?
* Outdoor Wireless: working on Wi-Fi pole model
* EDUROAM (secure SSID) -
  + [Wifi.ncsu.edu](http://wifi.ncsu.edu) is now live with links to SecureW2 for eduroam
  + AD certs - Have finally got them working. Will discuss at LAN Admin meeting
* Now tracking wireless metrics as part of overall [monthly metrics](https://oit.ncsu.edu/campus-it/campus-data-network/communication-technologies-metrics/)
  + Note - Airwave continues to have issues, looking to move to HCI in EDC this month, if Aruba supports this platform, otherwise we will be forced to move to appliances.
* Look at practicality of loaning out to departmental staff - No movement on testing more handheld devices

**Storage Infrastructure**

* NAS Migration
  + On-track to decommission DC1 NAS arrays in March.
* 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 - Database migration from EOS to AuriStor is complete. Working with various colleges on migrating file servers and volumes.

**Server Infrastructure**

* Purchased compute nodes for the DC1 DR data domain move to MCNC

**Software Infrastructure**

* Microsoft VDA site license expires May 31, 2020 - VDA(Virtual Desktop Access)
  + <https://sysnews.ncsu.edu/news/5e5ffcbc>
  + VCL - Azure Windows Virtual Desktop (WVD)
    - OIT staff will schedule meetings with colleges and departments regarding use of Azure WVD
    - What’s the impact of using Adobe products in WVD?
  + 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).
  + It’s not clear folks understand the scope of need given responses thus far
  + Colleges will go through OIT Software Licensing to get individual VDA license (and ensure compliance) after that. More information will be provided by Software team

### Governance Revamp

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

* + Quarterly?? More of a ComEx?
  + Where do folks go for IWS?? Relationship to infrastructure…
  + Sounds like there could still be a gap around sharing/discussion of general infrastructure initiatives beyond OIT

**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 – April 2, 2020