# Infrastructure Technologies Advisory Group

Agenda/Notes

# May 7, 2020

# **Present:** Debbie Carraway, Mark Williams, Dan Deter, Eric Sills, Keith Boswell,Franklin Finch, Tony Copeland, Joe McCoy, Gary Li, David Ladrie, Kevin Lee, Chris Allen, Chris Eichman

# **Welcome**

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

**COVID-19 Impact**

* Continuing to minimize staff on-site while maximizing services offered - very few impacts and fully supporting all existing services
* Business hours support for most buildings seems to be working well

**Staffing Update**

* New LAN engineer position - Will be starting phone screens soon

**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 - no new updates or testing on this
* Now focusing on core firewall upgrade - testing in the lab has begun with Palo Alto - working with S&C to discuss IPS options, waiting on funding for IDS/IPS
* Next generation edge switches - sticking with Cisco - new architecture will be discussed at LAN Admin meeting - will cost for port activations go down? Yes, $100/per port starting on July 1
* Both gateways have been migrated to the Nexus 9336
* Backbone updates - Investigating requirements and implementation standards
* Life Safety Centrex Replacement
  + NMDF and SMDF zones - 1st cutover in progress
  + CMDF - construction in progress
* Redundant fiber entrances - SMDF zone - installing racks, eqpt, fiber, copper
* Hillsborough St. crossings - Real Estate navigating City bureaucracy

**Access Layer**

* TUNAMELT project - 3560x switches - designs completed (26%) - working on King Village

**Data Center**

* DC1 Decommissioning
  + VM migrations are going well. Less than 16 vms remain in general clusters.
  + EDC - working on phase 2 infrastructure
  + Moving Unity600 array (capacity tier) this week
  + DC1 DataDomain is tentatively scheduled to move to MCNC early June,2020
* DC2 Elec/Mech upgrade - design in progress, working through strategic decisions
* EDC - working with City on additional fiber path back to campus
* 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) - these costs will hold through June 2021
  + Special challenges of tape libraries - need to change tapes on a regular basis, etc

**CATV**

* Apogee installing equipment for the end of May cutover.

**MDFs**

* NMDF - design in progress elec/mech upgrade.
* Lake Wheeler MDF - going to July BofG meeting for funding authority

**Infrastructure Records**

* Outside plant inventory project - creating drawings for 500+ manholes

**Building Infrastructure Projects**

* Design –, Zeta Tau Alpha, Alpha Delta Pi, Student Health (on hold)
* Construction – Dabney, DH Hill Academic Success, Kappa Alpha Theta, West Dunn, Materials Mgmt., Sigma Kappa, Carmichael
* Substantial Completion - Harris
* UPS RFP - opens this Friday

**Cellular/mobile**

* Indoor - Spidercloud - Talley activation on hold by VZW. 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
  + Planning for Change Management moving along well

**Unified Communications**

* Investigation options for spam blocking and text messaging
* Moving UC Servers from DC1 to MDF
* Renewing Cisco EA -- negotiated pricing to be in line with what was budgeted
  + Working with other schools on group EA renewal
* Partner Updates: UNCG, App State, NC A&T, Pembroke
  + Supporting call centers and remote workers
  + Expressway deployed at App State
* NC DIT -- Tools, Training, Support
  + Tools server in place
  + Planning transition from Presidio to NCSU for monitoring
* Life Safety rollout
  + 101 lines transitioned from Centrex to new Life Safety infrastructure
  + Had issue with one splice case in new wiring during the last big storm that will need to be repaired
* 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?
    - All phones that can be dialed must be able to dial 9-1-1

**Systems & Development**

* Tools Updates
  + Integrating 9300 stack architecture into all current tools
  + Starting to work on integrating Firewall tools with Palo Alto
  + Eduroam with AD Certificates / Radius
    - Working on Mac integration
* Transitioning final servers out of DC1
* Mobile management tool for Life Safety lines
  + All new data has been integrated with current life safety tools
* Pulling outside plant copper into EPIC

## Wireless

* Wi-Fi 6 Project - Priority list [WI-Fi 6 ballot](https://docs.google.com/spreadsheets/d/1ZJOL1LCEww-Ys5MQl2Ns3CKDJo-daOv-PYnIgolQawk/edit#gid=0), funding model discussion
* Partial King Village wireless - summer 2020
* Classroom wireless: [210 classrooms](https://docs.google.com/spreadsheets/d/1yVdsyNn6NCxZP0-EqBjrgDTIbVt40nwf_-fps2aLG1I/edit#gid=1005195878) - design in progress
* 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 - Working on Windows, expect a MAC solution in 4 - 6 weeks. We will roll out to production at that time.
* 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, currently testing the Aruba appliance and comparing to running on our VM infrastructure
* Look at practicality of loaning out to departmental staff - No movement on testing more handheld devices

**Server Infrastructure**

* Hw received (and HW ordered) for DC2 storage growth and compute refresh.
  + 4 x MX7000 chassis and 28 MX740C sleds
  + Additional 4 MX7000 chassis’s and 12 sleds ordered

**Storage Infrastructure**

* NAS Migration
  + Delayed - OnBase MFDs to be updated to scan docs to new share
* Received storage: DC2 core cluster refresh (Unity480F xt), expansion for DC2 Isilon, DC2 Unity650F, MCNC Unity300. Still waiting for EDC-HCI storage nodes.
* Up to 10TB / College allocation for administrative data approved and will be made available July 1, 2020
* AFS to AuriStor - Database migration from EOS to AuriStor is complete. Most of the file server and volume migrations are also complete. Reached out to Delta about the legacy volumes on Wolfware servers. Also working on cleaning up references to the old BP cell.
* Research Services Web Application update to support new research storage allocation methodology is now live

**Software Infrastructure**

* Microsoft VDA general site license expires May 31, 2020 - VDA(Virtual Desktop Access)
  + Microsoft extended for VCL only until 8/31/2020 due to covid-19
  + [Software Lic. FAQ](https://software.ncsu.edu/faqs/microsoft-vdi-faqs/)
  + [Original sysnews post](https://sysnews.ncsu.edu/news/5e5ffcbc)
  + [VCL FAQ](https://vcl.ncsu.edu/windows-applications-moving-to-azure-wvd-for-students/)
  + VCL - Azure Windows Virtual Desktop (WVD)
    - OIT PCS/WMS teams scheduling meetings and demo’s
    - 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).
  + Colleges will go through OIT Software Licensing to get individual VDA license (and ensure compliance) after that. More information is provided by [Software team in FAQ](https://software.ncsu.edu/faqs/microsoft-vdi-faqs/)
* RedHat License
  + Seriously investigating if can drop Red Hat license in 1-2 years
  + NC State just renewed our Linux licenses without rejoining System Office. We just received the new license information on 05/06/20 and will coordinate with campus to update satellite and katello configurations.
  + The renewed licenses will only cover OS and Satellite without anything else previously included in the infrastructure site license.
  + NC State will only have business-day regular support going forward.
* Sysnews Monitoring and Paging
  + The entire Sysnews infrastructure is aging. It is running on hardware and services that are getting harder and harder to support, including SMS appliances for paging that rely on 2G services (to be shut down by the provider before the end of 2020).
  + Several teams are exploring ways to build a new framework to replace the existing infrastructure, including utilizing ServiceNow interface to manage announcements and replacing current monitoring and paging systems. The teams will soon start sharing thoughts and outcomes from their initial investigation for campus to provide inputs and feedback.
  + Most initial efforts will have to focus on providing existing functionalities because of limited project time, but we hope a good framework will allow future expansion and integration of additional functions and tools. You will start hearing from various teams.

### Governance Revamp

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

* + 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. **Contract has been extended 3 years (Dec 2023)**. 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 – June 4, 2020
* Combine July/Aug Meetings (late July)

Eduroam USA locations link:

<https://www.incommon.org/eduroam/eduroam-u-s-locator-map/>