# Infrastructure Technologies Advisory Group

Agenda/Notes

# July 23, 2020

# **Present:** Greg Sparks, Greg James, Franklin Finch, Aaron Peeler, Andrew Kotynski, Chris Allen, Daniel Deter, David Ladrie, Dustin Duckwell, Ed Rogers, Eric Sills, Gary Li, Keith Boswell, Kirk Main, Mark Williams, Mike Kastellec, Neal McCorkle, Ralph Castanza, VijayTailor, Joshua Jury

# **Welcome**

Reminder: Google group… 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
* Reverted to 24/7 support July 1st
* Tents, tents, and more tents - 7 planned with 2 more being considered

**Staffing Update**

* New LAN engineer position - Mike Edmundson - start date 8/10

**Campus Network**

* Current firewall project is the site to site hardware upgrade - Wake county completed
* Developing a solution for remote site connectivity outside of Wake County - no new updates or testing on this
* Now focusing on core firewall upgrade - two Palo Alto 7050 chassis are installed in lab, NCSU-1 will be first context to migrate off of ASAs.
* Finalized annual Smartnet maintenance this week.
* 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 - cabling pending CMDF Life Safety
* Hillsborough St. crossings - Bidding in progress
* New Greek Village fiber X-connect - design complete

**Access Layer**

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

**Data Center**

* DC1 Decommissioning
	+ VM migrations completed for general clusters. Working on Core cluster vm migrations for comtech specific vms.
	+ EDC - working on phase 2 infrastructure
	+ OnBase NAS migration completed. On schedule to decommission the underlying NAS array by the end of July or early August.
	+ P2V work has been planned to help evacuate remaining systems and extend the service life of existing applications until they are replaced.
		- The DC2 half of SysNews Nagios is scheduled for Wed. 7/22. The DC1 half is yet to be scheduled (possible impact on monitoring)
		- SysNews primary server (web02sys) is scheduled for Sat. 7/25. SysNews Announcement, SysTools, and pager.ncsu.edu will be down during the maintenance)
* DC2 Elec/Mech upgrade - designer revising design strategy and budget based on MX chassis requirements
* Parking lot item - “virtual data center” – 4/5/18 conversation confirms there’s still some need for “flat” networks (even outside the data center) - new fabric facilitates this
* General service offering for colo - Summer
	+ Poe tenants early access (likely June timeframe but shout if immediate need)
	+ Intake processes being refined -- email jdperry5@ncsu.edu for intake
	+ 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**

* Working through support details with Housing after transition to streaming service

**MDFs**

* NMDF - design in progress (50%) for elec/mech upgrade.
* Lake Wheeler MDF - going to Sept BofG meeting for funding authority

**Infrastructure Records**

* Outside plant inventory project - creating drawings for 500+ manholes
* Fiber jumper inventory - in planning

**Building Infrastructure Projects**

* Design – Alpha Delta Pi, Student Health
* Construction – Dabney, DH Hill Academic Success, Kappa Alpha Theta, West Dunn, Materials Mgmt., Sigma Kappa, Zeta Tau Alpha, Carmichael
* UPS RFP - final 3 vendors in lab evals
* Lake Wheeler Campus - Island 1 (Swine Unit) - design in progress

**Cellular/mobile**

* Small cell consultant RFP - list narrowed to three
* Indoor - Spidercloud - Talley complete. Next group in negotiation with VZW.
	+ List: [SpiderCloud](https://docs.google.com/spreadsheets/d/16ZpdmpP7JNH1_P2tvzCISjmNXMzE-VyaEY1KrZv3uPc/edit?usp=sharing)

**IT Strategic Planning**

* Awaiting next University Strategic Plan
* Service Planning
	+ CMDB - discovery process is ramping up
		- Where are others related to CMDB desires?
			* Leaning towards requiring CMDB entries for all items in enterprise data centers to aid with compliance (UNC 1400.3)
	+ Considering when to implement Event Management
	+ Planning for Change Management moving along well

**Unified Communications**

* Investigation of 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
	+ Finalizing documents with purchasing for EA
* Partner Updates: UNCG, App State, NC A&T, Pembroke
	+ App State SIP trunk RFP evaluation
* NC DIT -- Tools, Training, Support
	+ Singlewire Informacast pilot
* Life Safety rollout underway
* Phone replacement of 6900, 7900 series phones

**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
* Transitioning final servers out of DC1 -- final few servers
* Mobile management tool for Life Safety lines
* 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 solidified for FY20/21, top 10 revisions
* Partial King Village wireless - 7 bldgs complete
* Classroom wireless: [210 classrooms](https://docs.google.com/spreadsheets/d/1yVdsyNn6NCxZP0-EqBjrgDTIbVt40nwf_-fps2aLG1I/edit#gid=1005195878) (180 rooms) - construction in progress
* Outdoor Wireless: custom pole design under review by OUA
* EDUROAM (secure SSID) -
	+ [Wifi.ncsu.edu](http://wifi.ncsu.edu) is now live with links to SecureW2 for eduroam
	+ AD certs - Everett doing final testing on Mac client.
	+ Now tracking wireless metrics as part of overall [monthly metrics](https://oit.ncsu.edu/campus-it/campus-data-network/communication-technologies-metrics/)
* Look at practicality of loaning out to departmental staff - No movement on testing more handheld devices

**Server Infrastructure**

* Received all spring purchases
	+ 4 x MX7000 chassis and 28 MX740C sleds
	+ EDC-HCI storage nodes

**Storage Infrastructure**

* OIT Storage and VM rate refresh FY20-21 published
	+ [Storage Rates](https://oit.ncsu.edu/campus-it/oit-general-storage-services/)
	+ [VM hosting rates](https://oit.ncsu.edu/campus-it/virtual-hosting/pricing-and-billing/)
* NAS replication between DC2 and EDC Isilons activated, working with OIT teams to test and identify critical data/shares
* Storage refresh for vmware DC2 core cluster completed
* AFS to AuriStor
	+ Delta volumes on Wolfware have been removed.
	+ Working with ECE on a legacy version of Cadence application before BP cells can be shut down.
* Research Services Web Application update to support new research storage allocation methodology is now live

**Software Infrastructure**

* Microsoft VDA general site license expired 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/)
	+ 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 licenses (and ensure compliance) after that. More information is provided by [Software team in FAQ](https://software.ncsu.edu/faqs/microsoft-vdi-faqs/)
		- Per Bill Coker -**The VDA license (now referred to as VDI-Windows E3) can be purchased for $16.52 per named user. To purchase, please send a request, along with Project ID and bookkeeper's name, to software@ncsu.edu.**
* VCL - Azure Windows Virtual Desktop (WVD)
	+ Onboarding for various departments
* RedHat Licensing
	+ OIT evaluation of Oracle Enterprise Linux (OEL) suite continues.
* EPS for Linux desktops and laptops
	+ Thank you for all feedback on [the initial document](https://docs.google.com/document/d/1fzh0L5NX02wpgiWqJVk6-OfY9428YnGiMijltDTa8aQ/edit?ts=5ed7b5c9)! We also reached out to a few colleges / units to better understand their unique situations.
	+ We will take your inputs and get into a deeper level of planning and design. The document will be updated accordingly.
	+ Major work may not start until August because of other competing projects and staff health issues.
* Sysnews Monitoring and Paging
	+ Working on providing the functionalities of other tools in the existing environment (e.g. SSL Cert).
	+ Developing basic templates of Zabbix for Windows environments.
	+ Expanding a QA environment and enabling its early access by selected IT units.
	+ In addition to [this FAQ](https://docs.google.com/document/d/1atEV2rh2vKx6b8dg4NsL2GdIQSoJO7Vz18Im9nLnvTE/edit) , [the video demo of Zabbix application](https://youtu.be/x7pUgFiovtw) and [the video demo of On-call / Paging systems](https://youtu.be/JcSVSe8KblE), short introduction and training videos are being developed on specific topics to help people get familiar with the proposed replacements.

**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

##  Upcoming Meeting Dates

* Next InTAG Meeting – September 3, 2020 9:30am