# Infrastructure Technologies Advisory Group

Notes

# May 2, 2019

# **Welcome**

Reminder: Google group… group-intag@ncsu.edu

**Staffing Update**

**Campus Network**

* Next firewall project is the site to site hardware upgrade
* Cisco VPN upgrade - Completed 2/20
	+ Lab environment set up and now ready for 2FA testing
		- SBL and SAML do not appear to work well together
		- Test group provided by CITD
			* Dan Green
			* Billy Beaudoin
			* ITECS - Lorenzo Watson, Ryan Hoekstra
			* Tih-Yuan Wang, twang2 (Design)
			* Nathan Snodgrass (Extension)
			* Libraries? Jill suggests Adit Burkule
			* 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
			* CHASS - Zack Dean,Daniel Henninger
		- Concerns raised about the impact this will have for international travelers - ie, making sure they have a second factor with them
		- Potential issue in that some linux users are using open source
	+ 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
		- Please help temper expectations within your community--Full Tunnel VPN will not necessarily solve everyone’s international access problems
		- Exploring whether session limits for VPN/full tunnel VPN connections might be appropriate. Will consult with S&C for a recommendation. Will gather some metrics to identify frequency of long-running sessions on current infrastructure.
* Centrex Replacement
	+ NMDF - transition should begin over the next 60 days
	+ SMDF - cabling ~85% complete, transition late summer
	+ CMDF - being designed
* Backbone updates - Investigating requirements and implementation standards
* Redundant fiber entrances - SMDF zone - design in progress

**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)
	+ EDC move-in getting close
* 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 - inside cables (24%)
* New PLA ground wireless maps 635/3100 AP’s done (21%).

**Building Infrastructure Projects**

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

**Cellular/mobile**

* Indoor - Spidercloud - 6 buildings - construction started in Nelson
	+ 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
* New Partner Development: NC DIT -- Tools
* Life Safety rollout -- VOIP equipment installed in Poe
* Centrex to VOIP conversion planning
	+ Once sRTP (encryption) is implemented, VoIP will be fine for PCI and other sensitive data
	+ Centrex <> Analog

**Systems & Development**

* Tools Updates
	+ Service Now project tracking & development
	+ Infrastructure Records Google Drive integration
	+ NetDisco2 migration complete
	+ Network Insight Development

## 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
* Stafford Commons/Wolf Plaza - hiring designer
* Beacon focus group - met 2/27/19 - pace of needs and technology appears to be aligning well
* Special Event Wireless Augmentation Pricing proposal
* EDUROAM (secure SSID) -
	+ [Wifi.ncsu.edu](http://wifi.ncsu.edu) is now live with links to SecureW2 for eduroam
	+ William/Billy/Michael met regarding AD certs - waiting on feedback for S&C regarding machine certificates
	+ 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.
	+ Look at practicality of loaning out to departmental staff

**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
	+ Recommend holding focus groups of key stakeholders to determine similarities between different approaches to inform the development of future solutions
* NAS Migration(DC2 Isilon) - in the early stages of the NAS migration project, testing with OIT-TSS and other OIT teams
* Funding received and purchased EDC Isilon with SED (secure encrypted disks) - No final decision yet on encryption requirements/options. Another meeting with S&C is coming up this Friday.
* HPC/VCL, DC2-NetApp, testing netapp volume encryption for HPC /home shares
* 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
* PeopleSoft 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 agreement.
	+ Paid 16 months in advance
	+ Good learning experience to help people prepare for eventual migration of infrastructure to the cloud
* VCL - MicroSoft VDA license (student remote access - “RDP”)
	+ Due to 2x cost increase in the VDA license for VCL, doing a cost analysis of running windows VM’s in Azure vs on-prem
* Continuing to push Oracle on Java (JDK) license - without any concrete results to date

###  Governance Revamp

### 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 – June 6, 2019

May Action Items:

* Recommendations for VPN time-out - Greg J