# Communication Technologies Advisory Group

July 20, 2017

# **Welcome**

## ComTech Org Changes

## CATV

* Finishing up summer work

**MDFs**

**Infrastructure Records**

* Wireless maps development in progress (200 buildings loaded)
* 261 buildings (42,000 outlets) in PLA ground.
* Staffing changes - Jason Proctor new point-of-contact

**Building Infrastructure Projects**

* Completed: North, Metcalf, Carroll, BPC (CVM/Provost)
* In construction: CVM Main,MRC, Gardner/Bostian/Phytotron, Winston/Caldwell/Tompkins,
* In design:Biltmore, Nelson

**UPS -** Will start FY17/18 replacements in Fall

**Campus Network**

* Centrex Replacement NMDF (construction), SMDF (design)
* Backbone IOS maintenance - none needed now
* New alternate fiber route Main Campus to CVM - ductbank complete, agreement signed
* Firewall Service Module migration has started. Working with CVM currently
* Huge fiber project for Athletics
* Load Balancer Replacement
* VPN Evaluation

**NIST**

* Current focus on gathering requirements for projects with CUI (controlled unclassified information) - appears to be 4-5 projects currently in scope
* Short-term solution focused on AWS

**Data Center**

* COLO planning in progress
* Capacity analysis for DC2 in progress
* DC status report and certification report should be ready next month
* Updating DC Guidelines and Procedures

**Access Layer**

* Planning in progress for Big Layer Two (BLT) project
* Access layer IOS upgrades - none needed now
* NAC replacement POC in Wolf Village A building
	+ Replacing 2 closets worth of Cisco switches with HP/Aruba switches
* Working on renewing annual Smartnet contract
* Installation of ASR 920 routers to start over the Summer in routed buildings:
	+ Talley - delayed,
	+ Campus Police - in design process,
	+ OSCAR Lab - delayed,
	+ DC0 - delayed

**Cellular/mobile**

* Indoor - Verizon/Spidercloud - almost there on campus-wide agreement
* Outdoor - Small Cells - three carriers - sent requests to Facilities/UA to review

**IT Strategic Planning**

* Focus on service portfolio
* Governance team is continuing to meet with Marc
* Space/Tech initiative has an internal draft

**Budget**

* Primary focus for 17/18 remains upgrades to aging access layer
* 10% increase each of the next 2 years to close the gap

**Unified Communications**

* Partner Updates: UNCG, App State, A&T?
* Transition from MGCP to H323 gateways, moving PSTN out of Datacenters
* Cisco Spark / Cloud Webex accounts
* Cisco 55” Sparkboard in AFTC 109
* Life safety infrastructure installation

**Systems & Development**

* Tools Infrastructure Upgrades
	+ All supporting DB’s moved to new HA MySQL off of MySQL02/03
	+ End of life backup server moved from local RAID to OIT SAN storage
	+ Crashplan decommissioned
	+ All servers transitioned to Avamar/NetBackup
* Tools Updates
	+ Firewall Request tool -- final testing
	+ NOMAD UI -- UAT
	+ UPS replacement tracking -- on deck
* Development
	+ iTRACS replacement - speed increases
	+ Switch config automation
	+ Centralized network device config backup and validation
* Comtech Knowledge base migrated to Service Now KB

##  Wireless

* Classroom Coverage
	+ Efforts underway for adding to classroom database
	+ Short-term will maintain [spreadsheet (column G)](https://docs.google.com/spreadsheets/d/1EM_YfPCHXV7BNHRdlUaj0_x6E75tMZblSppfhlmfJgQ/edit#gid=2136708155)
		- Where’s best place to publicize this list?
* Near Field Communication
	+ Greg S reaching out to CITD to setup a focus group meeting for Aug/Sept
* NOMAD Registration page update - **See Addendum (bottom of this agenda)**
	+ Allow all campus user to modify MAC address field to register another device?
		- Where to restrict access - campus only? Off campus via VPN?
* Residence Hall full wireless – phase 2 - construction in homestretch
	+ Switches for dorm rewire projects will be installed and patched by July 31
* Gregg Museum - complete
* EDUROAM (secure SSID )
	+ Evaluating alternatives to CloudPath - continued work on Secure W2
		- Con call yesterday to work on Radius config - testing after that
	+ Given current issues, OIT will not be stressing eduroam as primary SSID
	+ Goal is to eventually transition as many stakeholders as possible to use this SSID
		- Eduroam use - see monthly metrics link below
		- Need to “beef up” documentation - particularly around trouble-shooting
* Now tracking wireless metrics as part of overall [monthly metrics](https://oit.ncsu.edu/campus-it/campus-data-network/communication-technologies-metrics/)

###  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” – what is it and who pays
* Funding for server rooms, higher capacity (10Gbs ports), etc.

##  Upcoming Meeting Dates

* Next CTAG Meeting – September 21, 2017 - 9:30, AFTC 106

**Addendum:**

NOMAD Registration Admin Changes:

* List devices container selection changed to typeahead field instead of slow dropdown. The typeahead is set to query up to 3 containers at a time by wildcard name match. This increases performance dramatically.
* Added auto-forward to “introduction” page 2 seconds after entering/exiting user mode since it is confusing to just put a success message without altering the navigation menu to reflect the new status
* Commented out nav option for policy list since renewals aren’t being used anymore
* Revised message about pre-populated MAC on device add page to indicate to users that it belongs to the device they are currently using; also ensured the message is hidden during an update rather than add since the same template is used
* Removed “administrative search” box
* Added container information to device add/update page to indicate to users what container they are currently adding to (both for project multi-add and user single add)
* Added container information to device list page to show what container the devices are being harvested from
* Container listing pagination system implemented; for a system administrator this reduces the per-page container load from 638,810 to 10. This increase performance tremendously.
	+ Also added container search to this listing page to show a specific container of interest
	+ Added “See All” button when a single container is being shown
* Bulk delete functionality with all/none auto-selection is implemented
* Typeahead search is now restricted to nomad system administrators only to prevent users from seeing containers they don’t have access to
* Administrators can toggle whether they see all containers or just their own in the container listing
* Administrators can toggle the dropdown list of just their own containers or the typeahead search for all containers on the device list page.
* Option to add a new device added to the device\_list page.
* Advanced search (object\_search.py) page created, and links to it are provided on container listing and device listing pages for users and system administrators alike. The search routines self limit the results depending on whether a user is a nomad system administrator or not. This meets several NOC requirements:
	+ List all possible items that match (e.g. all DASA containers) at one time
	+ Ability to only search user or project containers
	+ Search project containers by administrator user name
* Javascript pre-submit validation added to enforce descriptions when adding devices on project containers. Previously they were optional.
* Container last\_updated and device last\_modified information added to all outputs listings.
* Forbidden user listing restyled and added a link there for adding a forbidden user
* Stripped down menu options by moving redundant items as links on relevant pages
* Added container add KB article link
* Added instructions for users who get the “in order to register a device you must be on Nomad or be a system administrator” message
* Added pagination size controls

Future changes:

* ability to move devices between containers
* bulk management of container user permissions (possibly with user groups)
* simplified version of the search interface to look at every possible field (only likely for users due to volume of data searchable via admins)