

UTFAB Wireless Briefing Spring 2017

March 28, 2017

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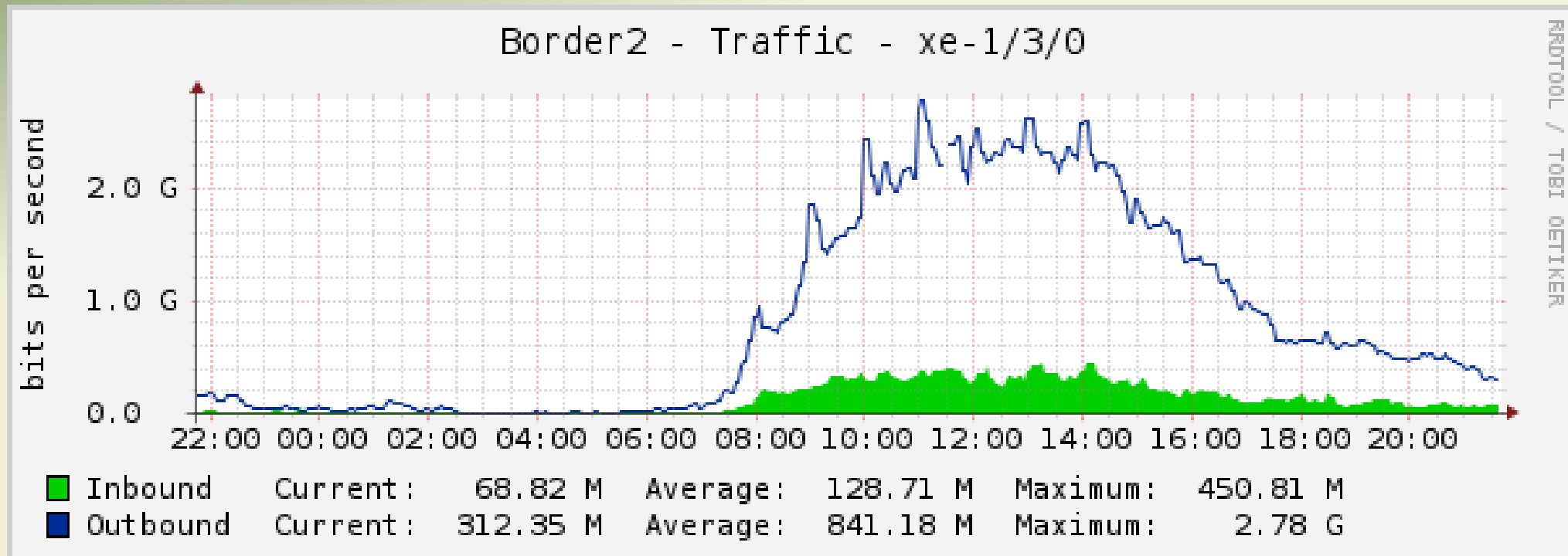
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Agenda

- Current Status & Recent Upgrades
 - Usage
 - Construction
 - Technology
 - Budget
 - Installs
- Where to next?

Current Status and Recent Upgrades

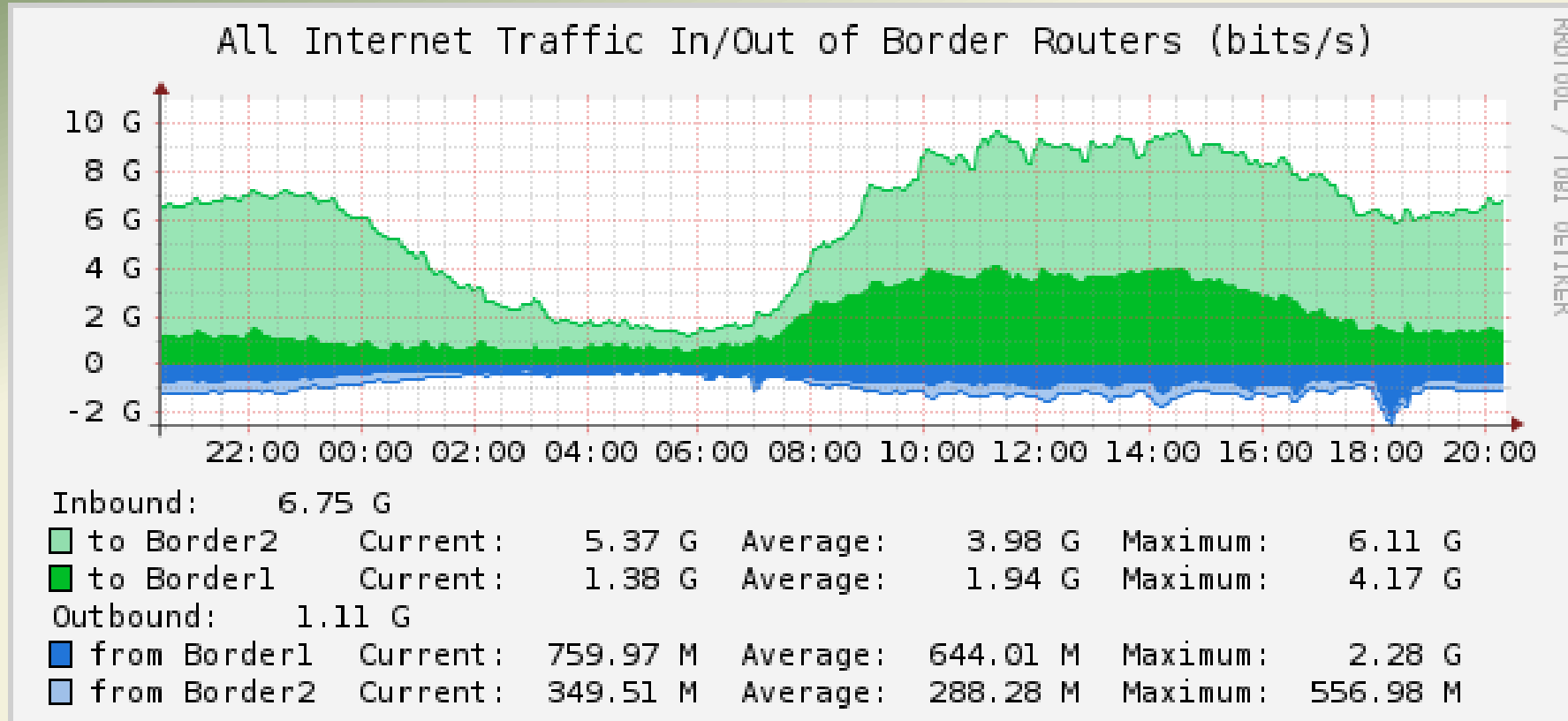
--Usage--



**Wireless Traffic
Only**

Current Status and Recent Upgrades

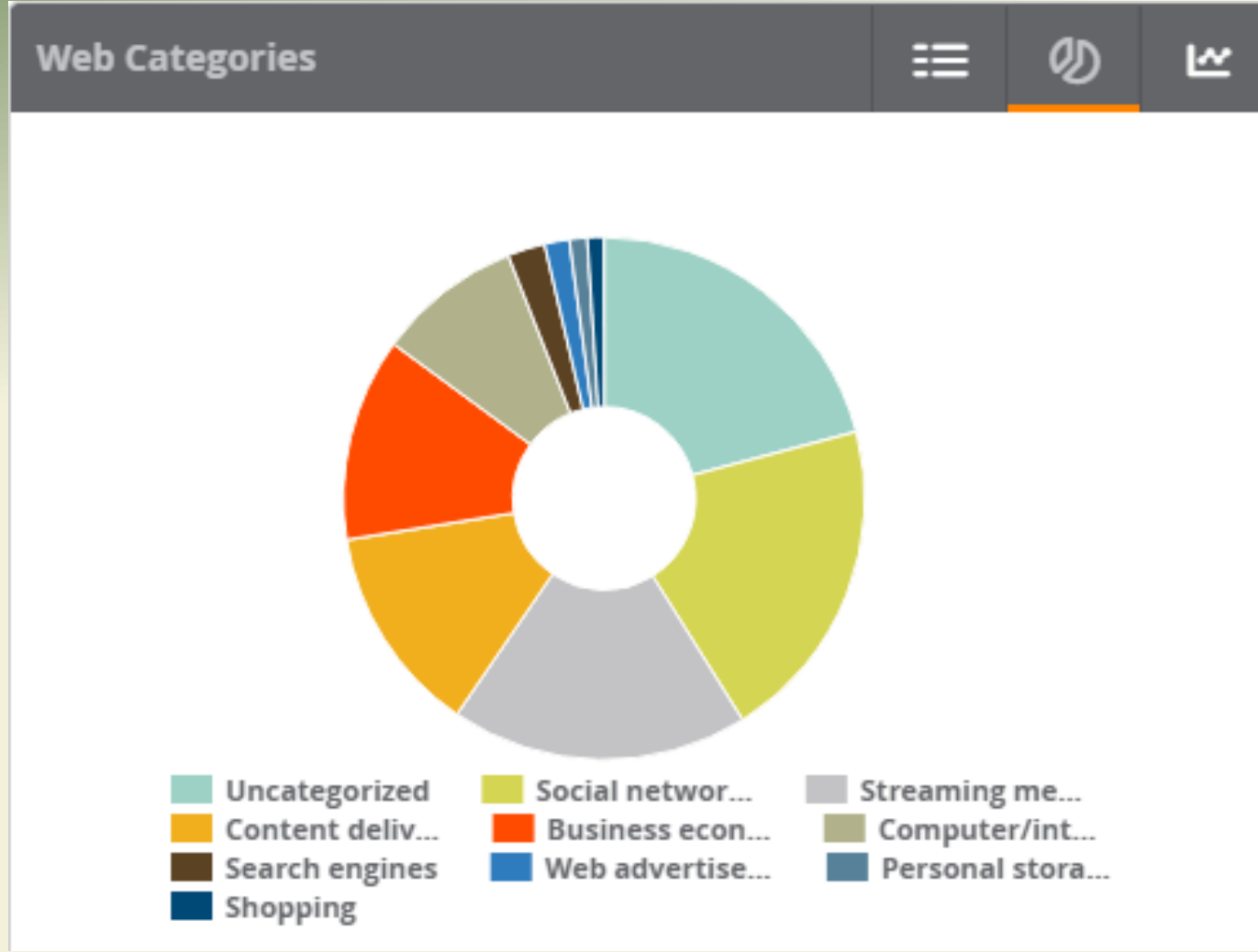
--Usage--



**All traffic = sum of
all green.**

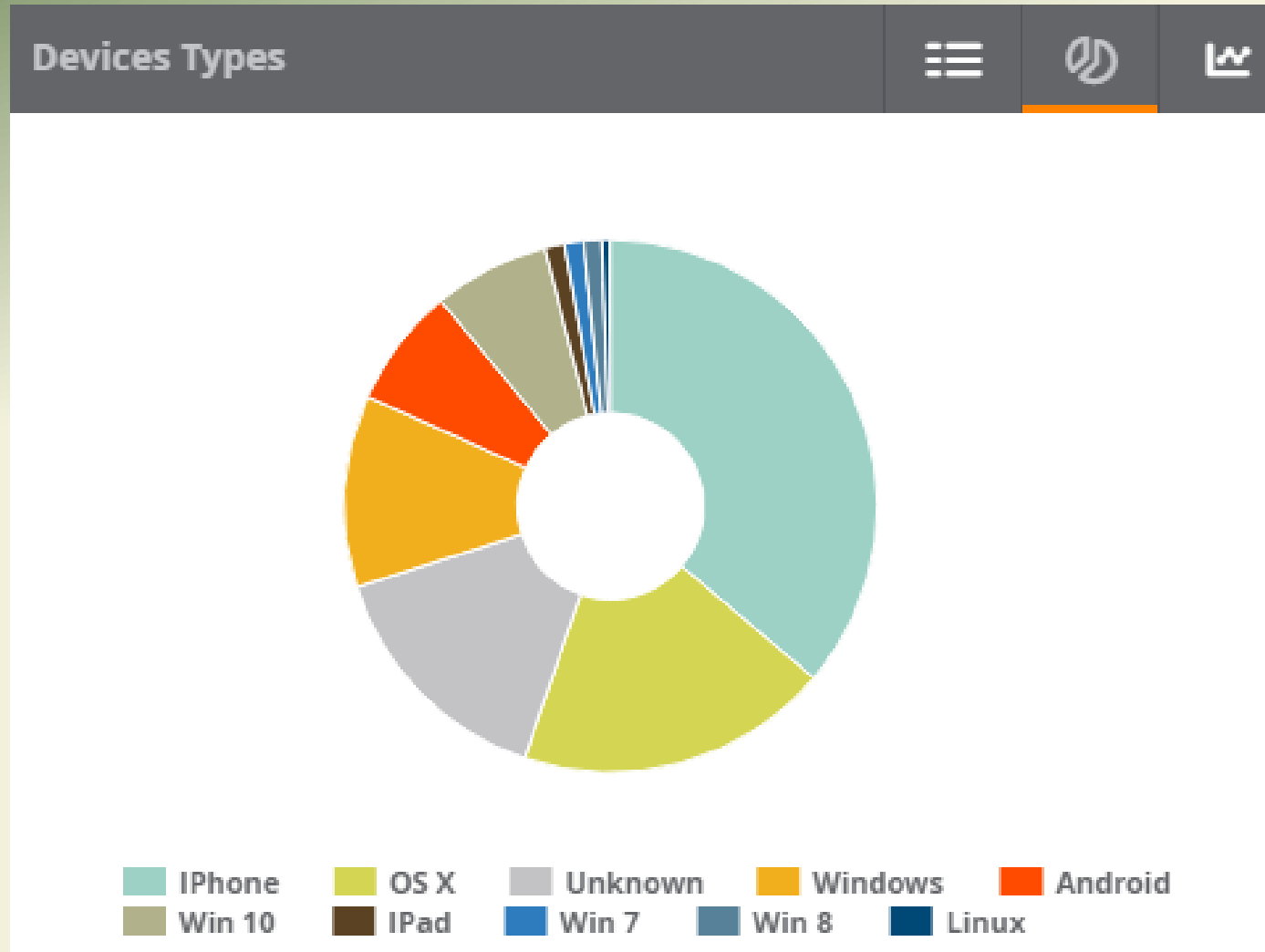
Current Status and Recent Upgrades

--Usage--



Current Status and Recent Upgrades

--Usage--



Current Status and Recent Upgrades

--Usage--

- Wireless represents nearly 1/3 of all traffic into CSU!
- 20,000 systems mid-day

Current Status and Recent Upgrades

--Construction--

- New Medical Center: 58 APs
- New Stadium: 128 APs (CSU, not counting 5Bars: ~250)
- New Biology: 64 APs
- New Chemistry: 34 APs

Current Status and Recent Upgrades

--Technology--

Waves?!

- Wave 1 vs Wave 2
 - Wider "highway"
 - More "conversations"
 - Device <-> access point
 - Device <-> multiple access points

Current Status and Recent Upgrades

--Installs--

New Routers

- Wireless routers were End of Life and seeing some "stress" from the amount of traffic.
- Approved last Fall
- Purchased in December
- Put into service over Spring Break

Current Status and Recent Upgrades

--Installs--

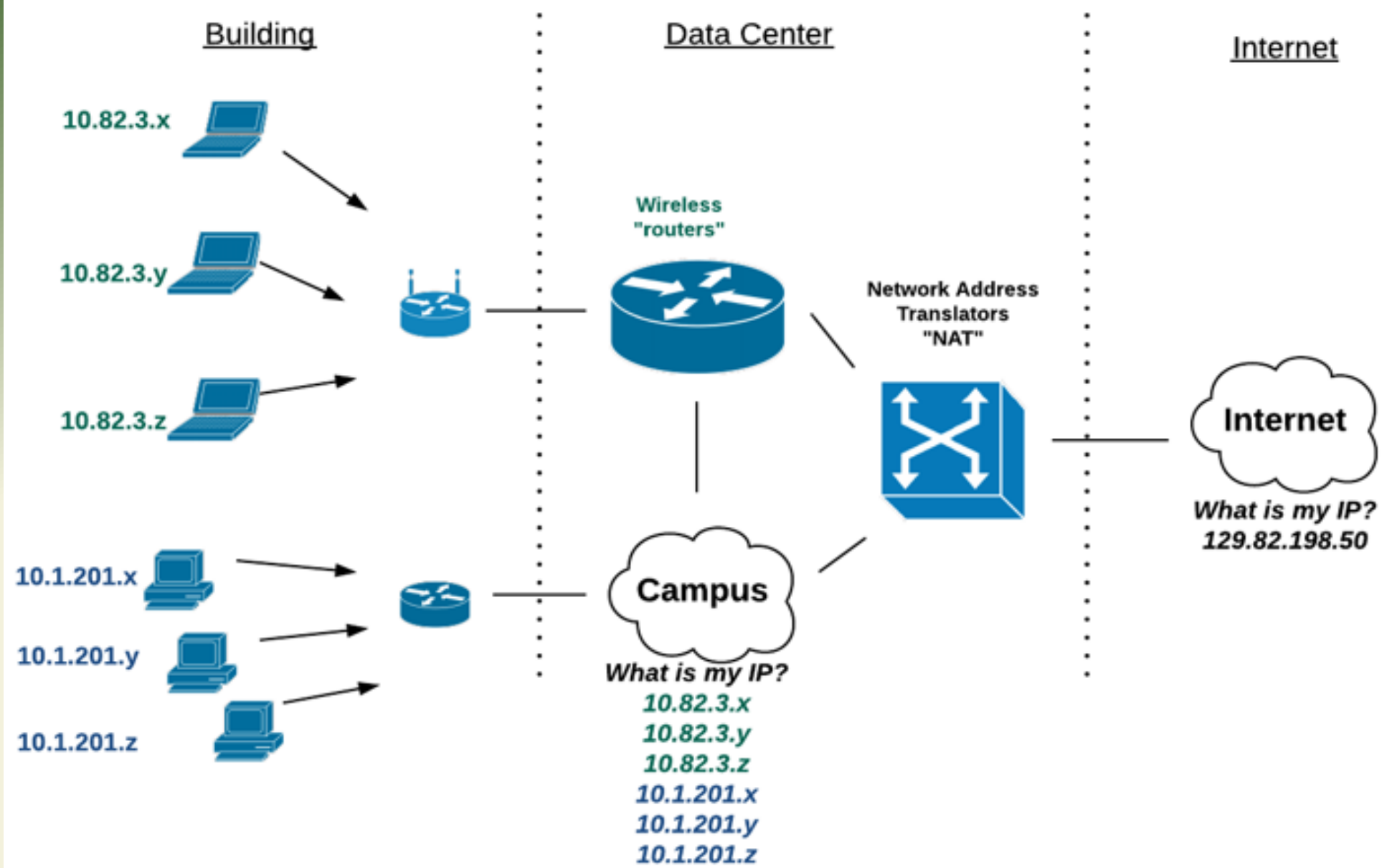
- Sculpture garden in progress (UTFAB/LSC funding)
- Intramural fields at Rec Center – funded by Rec Center (only Rec Center networks)

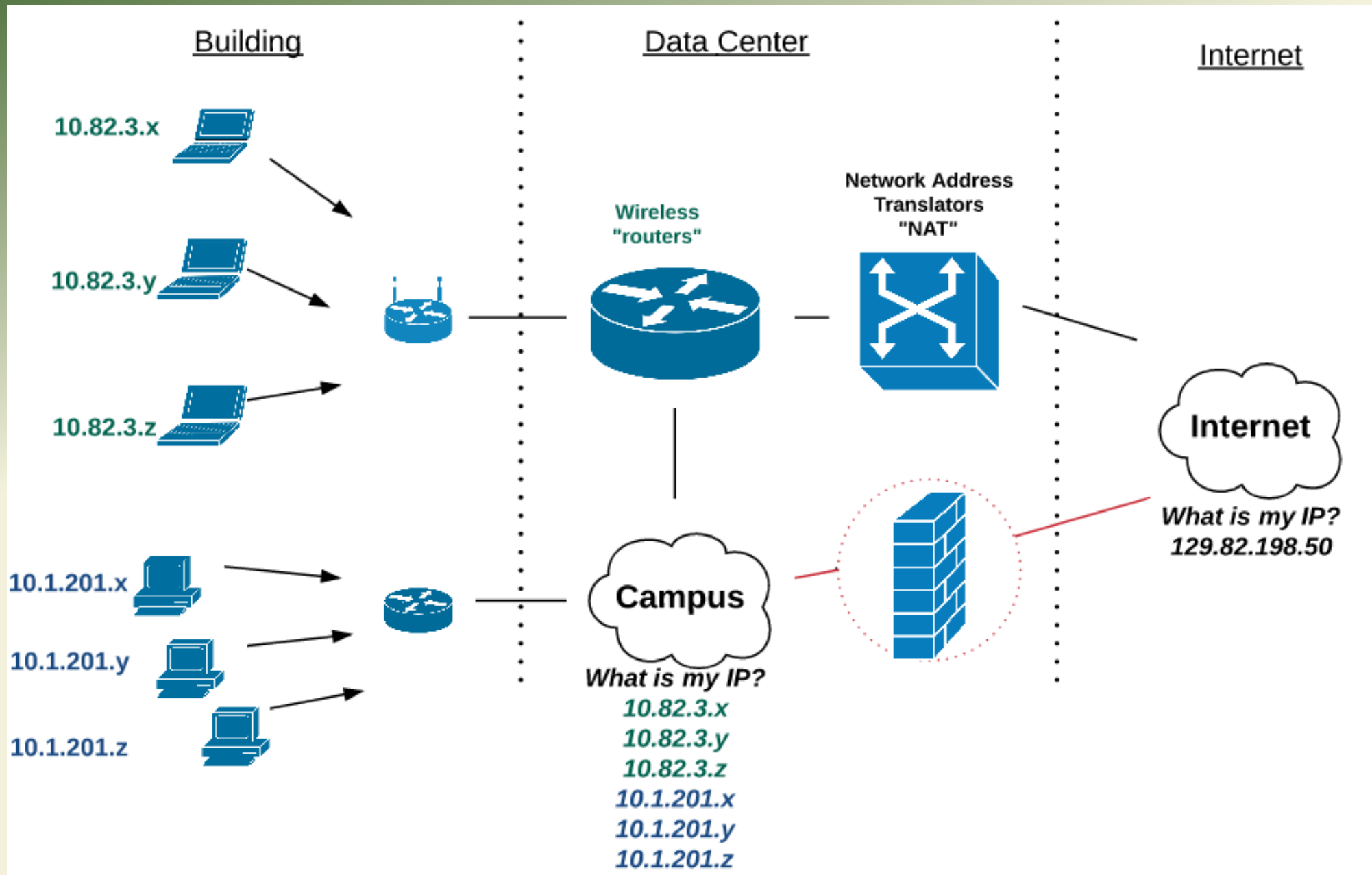
Current Status and Recent Upgrades

--Installs--

Network Address Translation (NAT – see next slide)

- Was shared with wired
 - moved wired off
- May need to filter "bad" traffic in future.





Current Status and Recent Upgrades

--Budget--

Wireless FY17	Allocated	Remaining	Proposed
Access Point Replacement & Upgrades	\$300,000	\$152,000	\$142,000 (-\$10K)
1 FTE: ACNS NOC	\$67,468	-	-
Network Infrastructure Upgrades	\$50,000	\$50,000	\$40,000 (-\$10K)
Maintenance	\$50,000	\$34,000	\$34,000
Labor	\$50,000	\$20,000	\$17,500 (-\$2,500)
Student Employee – network monitoring	\$5,000	\$0	\$2,500 (+ \$2,500)
Marketing	\$2,500	\$1,850	\$1,850
Additional Routers	\$20,000	\$20,000	\$40,000 (+\$20K)
3/29/2017	\$544,968	\$277,850	\$277,850

Current Status and Recent Upgrades

--Budget--

- \$35,807 remaining of December plan presented
 - Use ~\$12K at TILT
 - Ahead of schedule – major shift of client devices to Waves 1 and 2

Building	GA Classrooms 802.11ac Wave2	Building APs upgraded to 802.11ac Wave 2	Notes
Clark	pending	FY18	Have APs for classrooms, partially done
Eddy	FY17	FY18	
Morgan	FY18	FY19	Not started this period
Engineering	pending	FY18	Classrooms in progress
BSB	FY17	FY18	
Chemistry	FY17	FY18	
Rockwell	FY17	FY18	
PlantSci	FY17	FY18	
Wagar	FY17	FY18	
Johnson Theatre	FY17	FY18	
A/Z	FY17	FY18	
Education	FY17	FY18	FY18 - approx 310 Aruba APs to this point
NR	FY17	FY19	
Shepardson	FY17	FY19	
Gifford	FY17	FY19	
Aylesworth (C-wing)	FY17	FY19	
Micro	FY17	FY19	
Yates	FY17	FY19	
SBB	pending	FY19	Classrooms in progress
Glover	FY17	FY19	
MilSci	FY17	FY19	
Physiology	FY17	FY19	
Pathology	FY17	FY19	
VisArts	FY17	FY19	
TILT	FY17	FY19	1 classroom with 2017 budget ?
Animal Sci	FY17	FY19	
Guggenheim	FY17	FY19	
MRB	FY17	FY19	
Forestry	FY17	FY19	
Weber	FY17	FY19	
HESTF	FY17	FY19	

Where to next

--Reminder of "the plan"--

- Priority 1: Latest technology in GA classrooms
 - All GA buildings are Wave1 or better!
- Priority 2: Extend best available technology to GA buildings
 - Need to spend much of FY18 doing ½ the buildings and FY19 doing the next ½.
- Priority 3: "Hand me downs" to non GA buildings

Where to next?

--Necessary expenditures--

- FTE: **\$61K**
- Purchase and install about 300 new Aruba APs for GA buildings -- Eddy, Engineering, BSB, Chemistry, Rockwell, Plant Sci, Wagar, AZ, Education: **\$215K**
- Purchase and install Xirrus APs to for Clark and Morgan: **\$110K**
- Labor: **\$5K**
- Maintenance: **\$40K** (\$50K provided centrally also, for a total of \$90K)
- Outreach: **\$1,250**

Total: \$432,250K

Where to next?

--Opportunities--

Security

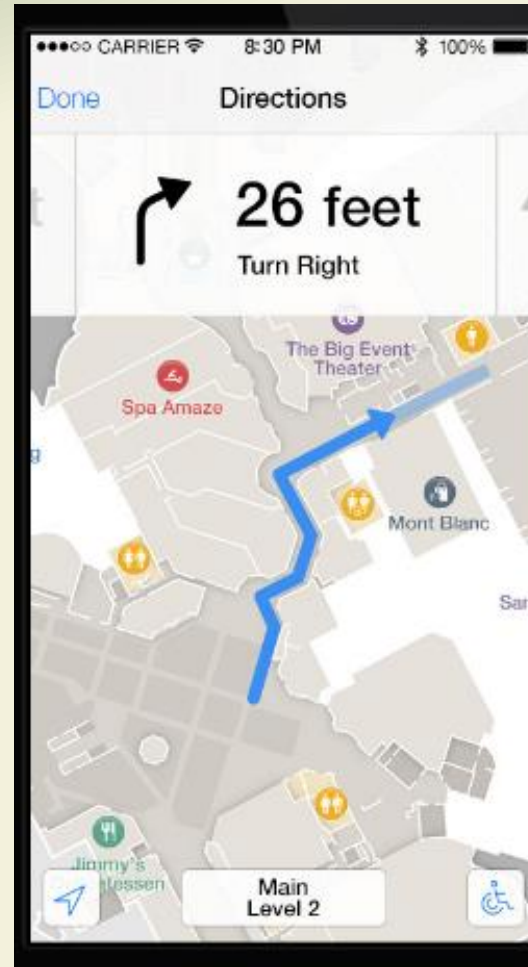
- Finding attackers
- Finding compromised machines
- Better logging
- about **\$50K**

Where to next?

--Opportunities--

- Other outdoor areas?
- Wayfinding?
- Voice over WiFi?

- Discussion



FY18 Funding Request

	FY17 Budget	\$ Change	% Change	FY18 Request
Access Point Replacement & Upgrades	\$300,000	\$25,000	8% (includes infrastructure)	\$325,000
1 FTE:ACNS NOC	\$67,468	\$6,468	-9.60%	\$61,000
Network Infrastructure Upgrades	\$50,000	-	-	Included in above
Maintenance	\$50,000	-\$10,000	-20%	\$40,000
Labor	\$50,000	-\$45,000	-90%	\$5,000
Student Employee	\$5,000	-\$5,000	-100%	Will cover centrally
Outreach	\$2,500	-\$1,250	-50%	\$1,250
Additional Routers	\$20,000	\$20,000	-100%	Not applicable
Security	\$0	\$50,000	-	\$50,000
<small>3/29/2017</small> Total	\$544,968	-\$ 62,718	-12%	\$482,250

Requirements...

<i>Benefit as many students as possible</i>	<i>Typically multiple WiFi devices per student!</i>
<i>Ability to effectively utilize the fee</i>	<i>Your decision</i>
<i>Not funded by CFT</i>	<i>Correct</i>
<i>Adherence to budget and accountability</i>	<i>Your decision</i>
<i>Potential for direct student use</i>	<i>Without question</i>
<i>Effort, thought & clarity in the plan</i>	<i>Your decision</i>
<i>Quantitative usage data</i>	<i>Provided to UTFAB with each update</i>
<i>Financial co-sponsorship</i>	<i>Central funding contributes maintenance, 1 FTE, and work in non GA buildings</i>
<i>Central/distributed balance</i>	<i>Your decision</i>
<i>Not part of other UTFAB projects</i>	<i>Correct</i>

Thank you

Questions?