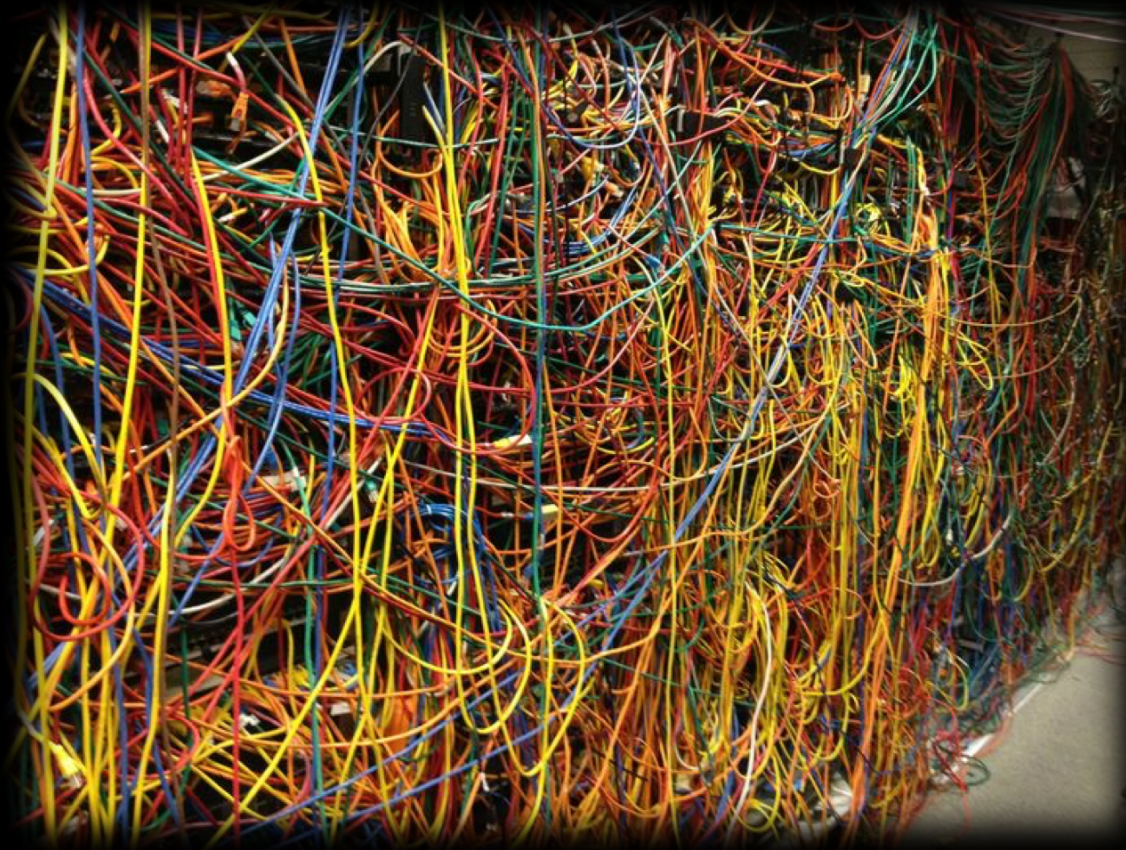# What do we do?

Wired Infrastructure

- ❖ Closed Captioning
- ❖ Contests
- ❖ DC TV
- ❖ Info Booth
- ❖ Media Server
- ❖ Press
- ❖ QM
- ❖ Richard Cheese
- ❖ Rootz
- ❖ SOMA FM
- ❖ Speaker Ops
- ❖ Speakers
- ❖ Vendors
- ❖ Villages
- ❖ WiFi Monitoring

Wireless Infrastructure

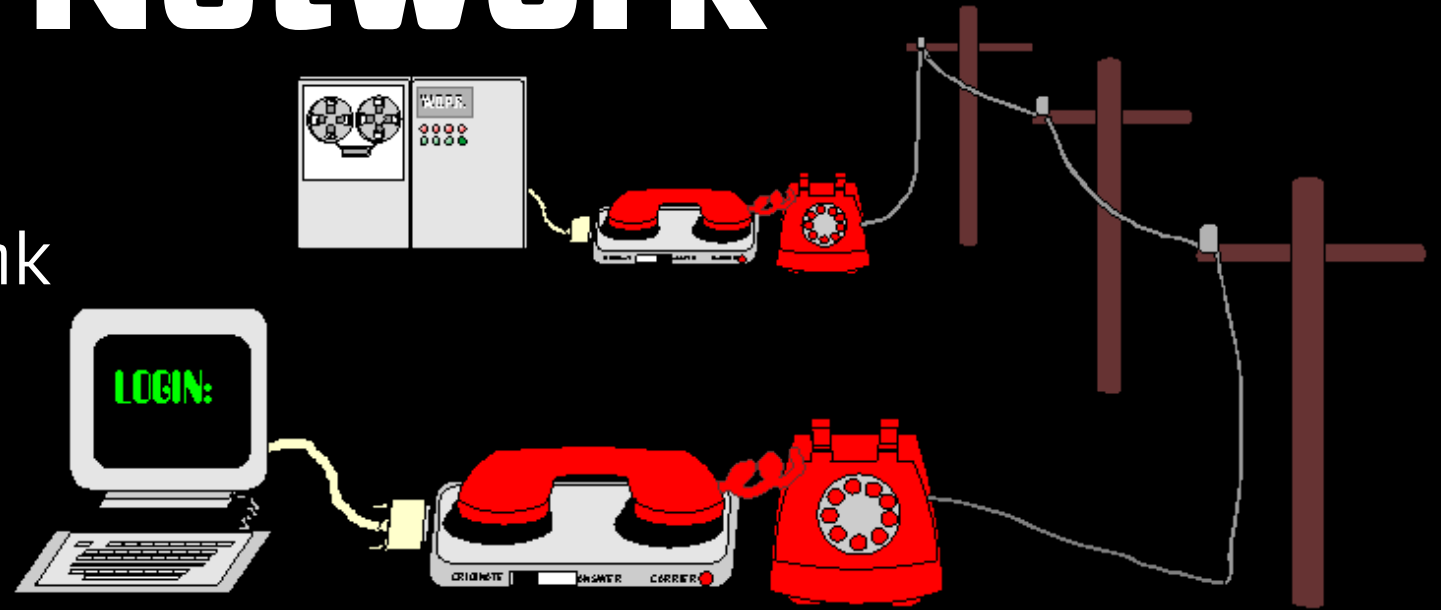- ❖ for the the brave (and patched devices)

DC TV

- ❖ for those in their rooms

NOC

The Network

- ❖ **10** gbps backbone
- ❖ ~~**200**~~-**250** mbps internet uplink

- ❖ **Wired Gear**
  - ❖ **1** x Firewall - FreeBSD
  - ❖ **1** x Core Cisco Switch (**#yolo** , but we had a cold stand-by box)
  - ❖ **14** x Edge Cisco Switches
  - ❖ **3** x Monitoring "Servers"
  - ❖ **2** x DC TV "Servers"
  - ❖ **1** x WiFi Registration "Server"
  - ❖ **1** x Admin "Server"
  - ❖ **THE** Media Server

The Network (cont)

❖ Wireless Gear
  ❖ 1 x 7210 Aruba Controller
  ❖ ~~61 x Aruba Access Points (70, 105, 135, 225)~~
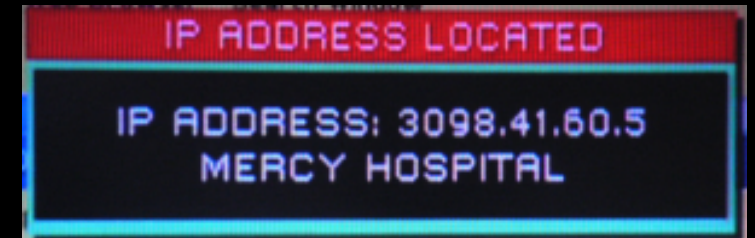 ❖ 69 x Aruba Access Points (model 305) – THANKS Aruba!

❖ DCTV
  ❖ 13 ODROID units
  ❖ 2 x on-site streaming servers
  ❖ Video Transcoding provided by SOK

IP ADDRESS LOCATED
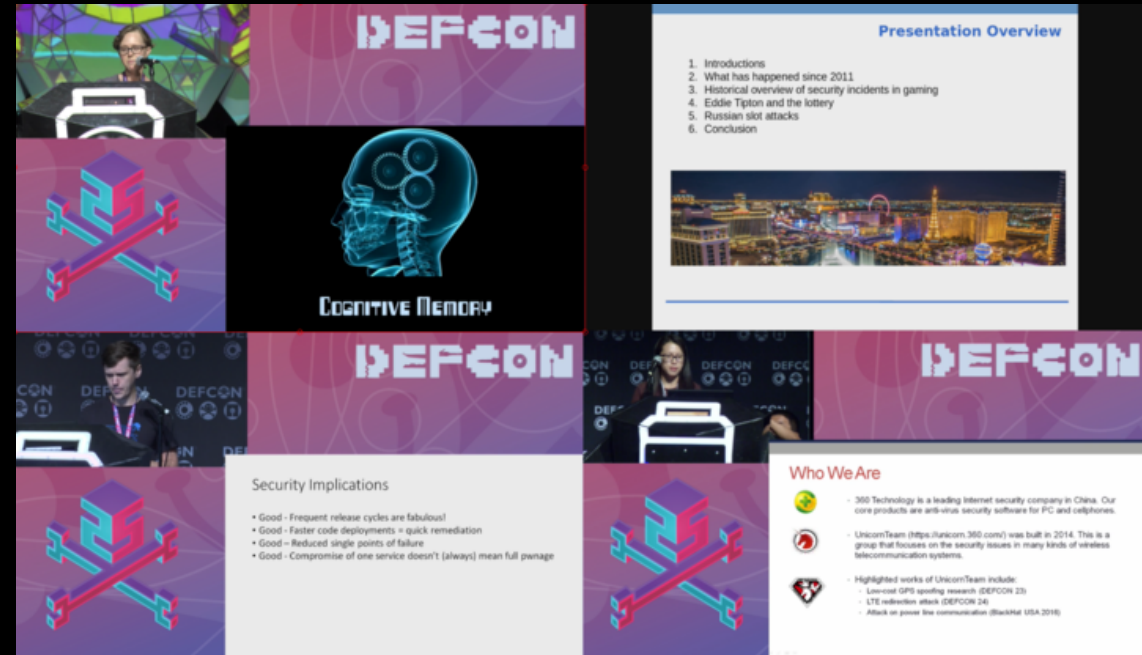
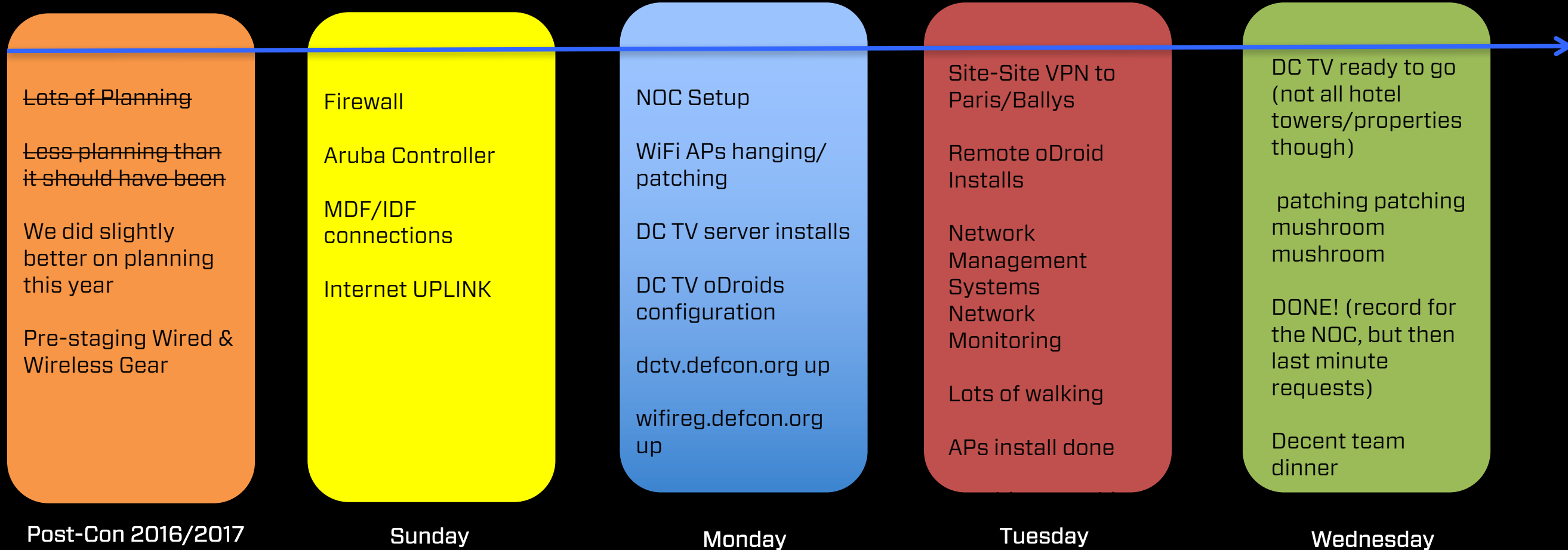IP ADDRESS: 3098.41.60.5
MERCY HOSPITAL

N⊙C

The Network (cont)

DC TV

❖ HD Broadcast

❖ 2 Tracks streamed to the internetz

❖ 5 channels at Caesars

❖ 4 channels for each one of the remote properties

Timeline

Post-Con 2016/2017

~~Lots of Planning~~

~~Less planning than it should have been~~

We did slightly better on planning this year

Pre-staging Wired & Wireless Gear

Sunday

Firewall

Aruba Controller

MDF/IDF connections

Internet UPLINK

Monday

NOC Setup

WiFi APs hanging/patching

DC TV server installs

DC TV oDroids configuration

dctv.defcon.org up

wifireg.defcon.org up

Tuesday

Site-Site VPN to Paris/Ballys

Remote oDroid Installs

Network Management Systems Network Monitoring

Lots of walking

APs install done

Wednesday

DC TV ready to go (not all hotel towers/properties though)

patching patching mushroom mushroom

DONE! (record for the NOC, but then last minute requests)

Decent team dinner

NOC

Timeline (cont)

Last Minute Requests (new patches, cables, switches)

Learned about Paris' water leak that affected us

Thursday

Just worked (despite the issues)

DC TV stuffz (see issues slide)

Friday

DC TV stuffz

Saturday

Teardown

Start Packing
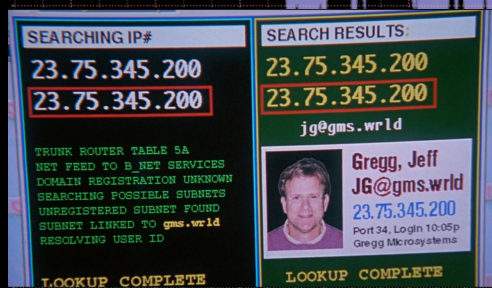
Beer

Sunday

Packing

Leaving Las Vegas

Monday

NOC

Issues

- ❖ Bandwidth
- ❖ AP Coverage / AP Capacity at times
- ❖ DC TV
  - ❖ Fiber Connection Issue at Caesars
  - ❖ ODROIDS (overheating/ locking-up / manual resets required)
  - ❖ Remote Location Setup
  - ❖ Flood at Paris Network Room
  - ❖ Switched from rtsp to rtmp

Issues

People are **bad** with dates

> ❖ We had to delete an older entry from www.defconnetworking.org because one gets confused with an entry from DC 19/2011 for the channels in the Rio Hotel
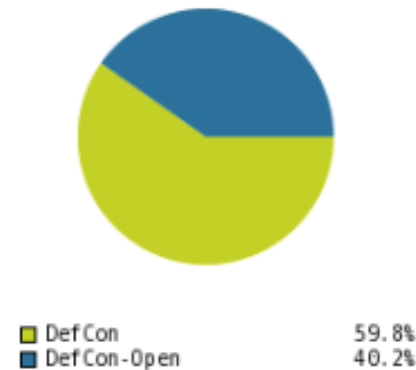
"DefCon TV"

DefCon TV is coming up now (we had equipment arrive late (this morning)). We're setting up broadcast equipment now. Here is your TV Chanel Lineup... Track 1 - Channel 41 Track 2 - Channel 54 Track 3 - Channel 55 Track 4 - Channel 58 P&T - Channel 59

WiFi Stuff

- ❖ Lots of 802.1x misconceptions
- ❖ Twitter trollage

password
defcon25
defcon2017
1QAZ2wsx
skdefcon
defcon
123456
letmein
123
1234

Clients by SSID

DefCon	59.8%
DefCon-Open	40.2%

Application	Total Bytes
https	1.60 TB
http2	778.13 GB
openvpn	366.70 GB
udp	294.26 GB
http	262.86 GB
bittorrent	252.20 GB
google	233.36 GB
ipsec	151.58 GB
tcp	131.23 GB
itunes	111.09 GB

SECUREUSER

https	37.3%
Other	24.4%
http2	22.6%
openvpn	8.6%
udp	7.0%

OPENUSER

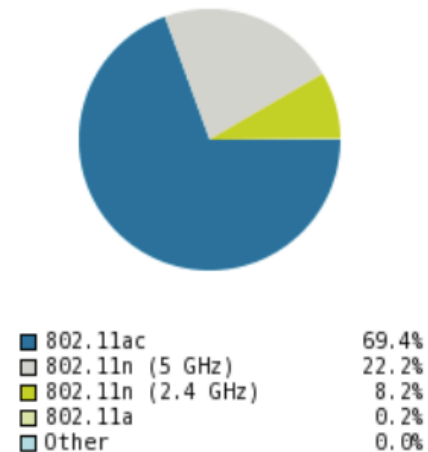|	
https	37.4%
Other	26.9%
http2	15.3%
google	12.1%
udp	8.2%

Destination	Total Bytes
dc25-media.defcon.org	1.89 TB
amazon cloud drive	76.21 GB
google drive	75.51 GB
us-california.privateinternetaccess.com	69.75 GB
kali.localmsp.org	59.94 GB
uslax.ce.apple-dns.net	58.87 GB
facebook	49.51 GB
www.googleapis.com	49.14 GB
uslax-edge.icloud-content.com	47.81 GB
iosapps.itunes.apple.com	44.55 GB

Moar WiFi Stuff

DefCon		DefCon-Open	
Application	**Total Bytes**	**Application**	**Total Bytes**
https	1.36 TB	https	279.67 GB
http2	637.75 GB	http2	149.02 GB
openvpn	317.91 GB	google	87.22 GB
bittorrent	233.11 GB	udp	67.19 GB
udp	231.12 GB	openvpn	56.78 GB
http	215.66 GB	http	53.53 GB
google	155.17 GB	tcp	30.60 GB
ipsec	132.34 GB	debian-update	27.13 GB
tcp	102.15 GB	apple	25.26 GB
itunes	93.21 GB	windows-update	24.72 GB

MB Used by Connection Mode

802.11ac	69.4%
802.11n (5 GHz)	22.2%
802.11n (2.4 GHz)	8.2%
802.11a	0.2%
Other	0.0%

Clients by Connection Mode

802.11n (2.4 GHz)	46.1%
802.11ac	41.8%
802.11n (5 GHz)	11.5%
802.11g	0.5%
Other	0.2%

The Usual Stats

- ❖ 4.886 TB of internet traffic
  - ❖ Inbound: 3.688 (compared to 3.13487072983 from DC24)
  - ❖ Outbound: 1.198 (compared to 1.1607473418 from DC24)
- ❖ 5,455 users registered on wifireg (˜4k last year)
- ❖ 2,104 wireless users peak (compared to 1400 last year)
- ❖ 8,424 "unique" wireless clients
- ❖ 22k unique DHCP leases (compared to 35k, thanks!)
- ❖ 8,226 "unique" mac addresses
- ❖ 6.74 TB of wireless traffic
- ❖ 1.89 TB media server traffic

effffn's twelve

❖ **Leads**
  ❖ effffn
  ❖ mac

❖ **Infra/ Systems**
  ❖ #sparky (The Machine)
  ❖ booger
  ❖ c0mmiebstrd
  ❖ c7five
  ❖ deadication

❖ **DC TV**
  ❖ videoman
  ❖ serif

❖ **WiFi**
  ❖ CRV
  ❖ jon2

❖ **n00b**
  ❖ musa

THANKS!

- ❖ DT
- ❖ Charel
- ❖ Will
- ❖ Caesars IT Staff
- ❖ Encore Staff
- ❖ Source of Knowledge
- ❖ The nice folks who always bring us snacks!
- ❖ Press Goons
- ❖ Capitan Obvious
- ❖ Micah (for nothing, #1 Genius Bar Employee <3)
- ❖ The Machine
- ❖ YOU!

http://defconnetworking.org

@DEFCON_NOC

noc\at/defconnetworking.org

NOC