

4G LTE in GENI

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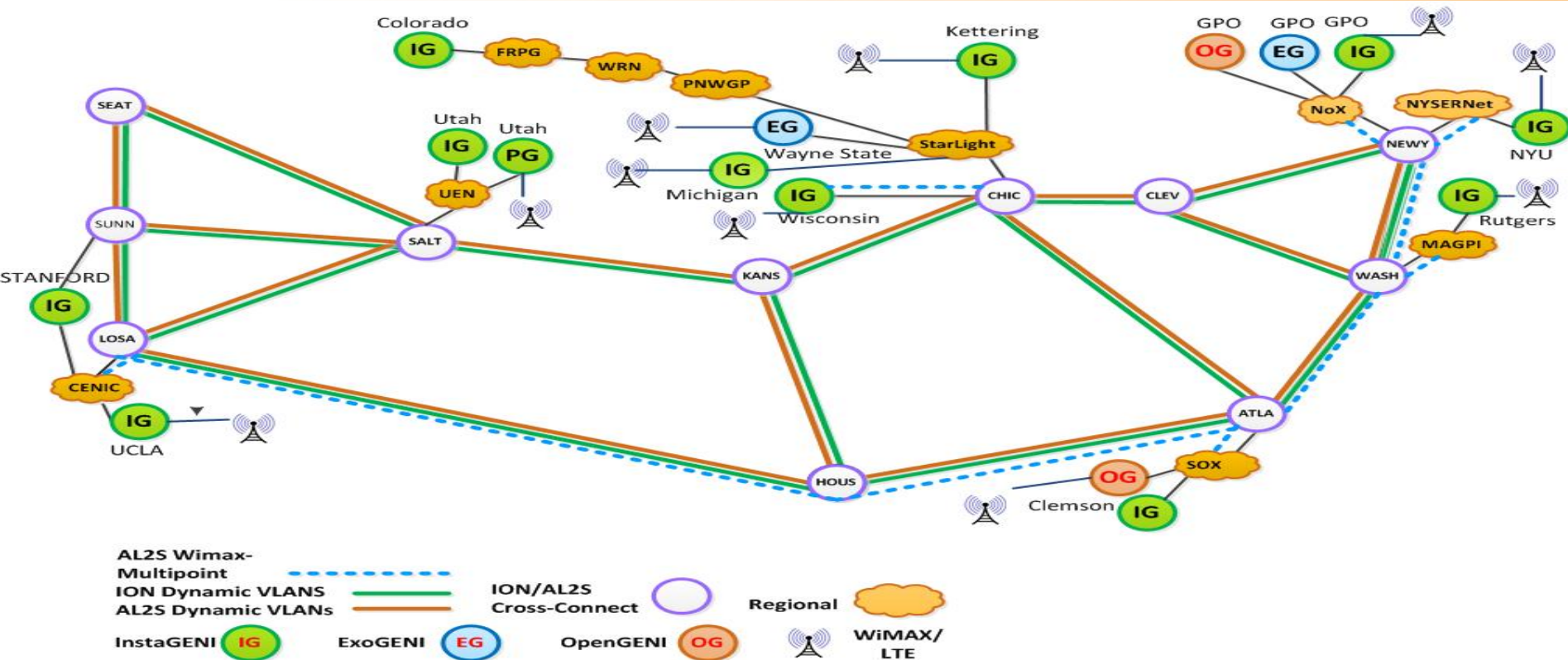
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GEC-24

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AGENDA

- GENI Wireless Deployment Status (Manu)
- Site Deployment Plans (All Sites)
- 5G Going Forward (Hadi, Jose)
- GENI Transition (Manu)



- 26 Wimax + 10 LTE Base Stations in 13 Sites
- 90 android handsets available to experimenters
- 36 wireless (yellow) nodes
- Uniform experimenter experience using yellow nodes, GENI Racks
- Sliced, virtualized and interconnected through AL2S/Internet2

- 4 Sites have received equipment and are online.
- Shipment of 9 BS at 5 Sites by End of March.
- Need to determine Fiber to Ethernet outdoor conversion. (if desired)
- Upgrade Netspan software.
- Configure VLAN on campus network for backhaul network to Control Server located in Kettering University.
- Configure VLAN on GENI Rack to connect BS to GENI L2 AL2S Network.

Campus Network

Eth1
 Netspan IP (eNBs Management)
 IP eth1: 10.3.10.7 / 255.255.255.0
 IPeth0 : 130.127.106.90

Netspan

EPC eth0
 EMS IP
 10.3.10.10
 MME IP
 10.3.10.11
 SGW IP
 10.3.10.12
 PGW IP
 10.3.10.13
 HSS IP
 10.3.10.14

EPC BM GENI Rack

EPC eth1
 PDN IP
 130.127.38.1/24
 GW to Internet (for UEs)
 130.127.38.1

UEs IP range (For EPC Config.)
 130.127.38.231-
 130.127.38.254

VLAN X

GPS Antenna

eNodeB
 10.3.10.200

LTE UE

LTE UE

AL2S

130.127.49.73



4G Base Station Hardware

AirHarmony

Located closer to the end user, providing much higher aggregate data rates

TDD LTE

Max Transmit Power: 30 dBm per Tx

2 x 2 MIMO: SM and TxD

Operational Frequency Bands:

7 and 41 (2.6 GHz), 12, 13, 14 and 17 (700 MHz), 20 (800 MHz), 40 (2.3-2.4 GHz), 42 and 43 (3.4-3.8 GHz)



EPC Software

EPC on bare Metal node on GENI rack

Rspec publicly available

LTE Release 8 compliant

Connect LTE eNodeB to local EPC

Please research and share different clients the community can use



LG Nexus 5
Android 5
Test SIM



Netgear 341U USB Modem
Linux Driver
Test SIM
Greenpacket LTE CPE

- Rutgers(Ivan Seskar) will be PoC going forward
- GMOC will handle Monitoring, per Wireless agreement with Sprint
- GPO member (Heidi) will mana