

The VoIP Net – the view from Higher Education

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Agenda

- Higher Education networks
- VoIP in higher Ed.
- Beyond Voice
- Work in Emergency Communications
- Next Steps and issues



Higher Ed Background

- 1996 Internet2 founded
- 209 Leading Research Universities in US
- Global peering
 - GEANT – Europe
 - CuDI – Mexico
 - APAN- Asia
 - Clara – South America
 - Canarie – Canada
 - AARNet - Australia



Capabilities and Resources

- IPV6
- Multicast
- High speed backbone – migrating to 100 Gig
- The ability to work in a noncompetitive environment
- A community that is not bounded by “that’s the way that we have always done it”
- Users that are pushing the envelope

US UCAN



Internet2 Planned 100 Gigabit Infrastructure Topology (DRAFT)

Draft - Last updated 04/10/11



IN SUPPORT OF
U.S. UCAN

NETWORK PARTNERS



VoIP in Higher Ed

- VoIP predominant in Higher Education.
- Aastra/Broadsoft at TAMU
- SIP trunking
- SIP peering



Beyond Voice

- Unified Communications is more than just voice
- Video currently includes:
 - H.323 GDS
 - SIP
 - Telepresence

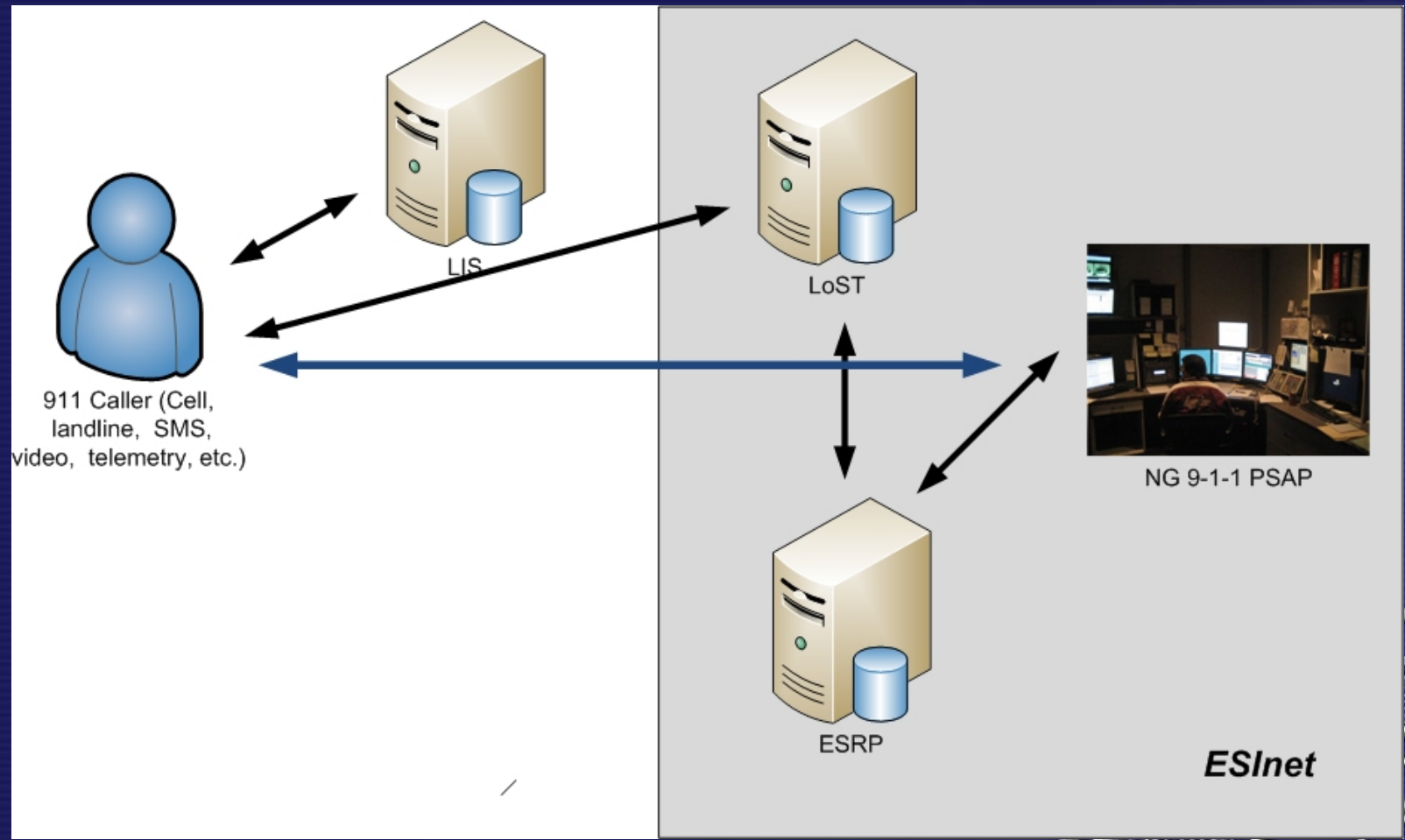


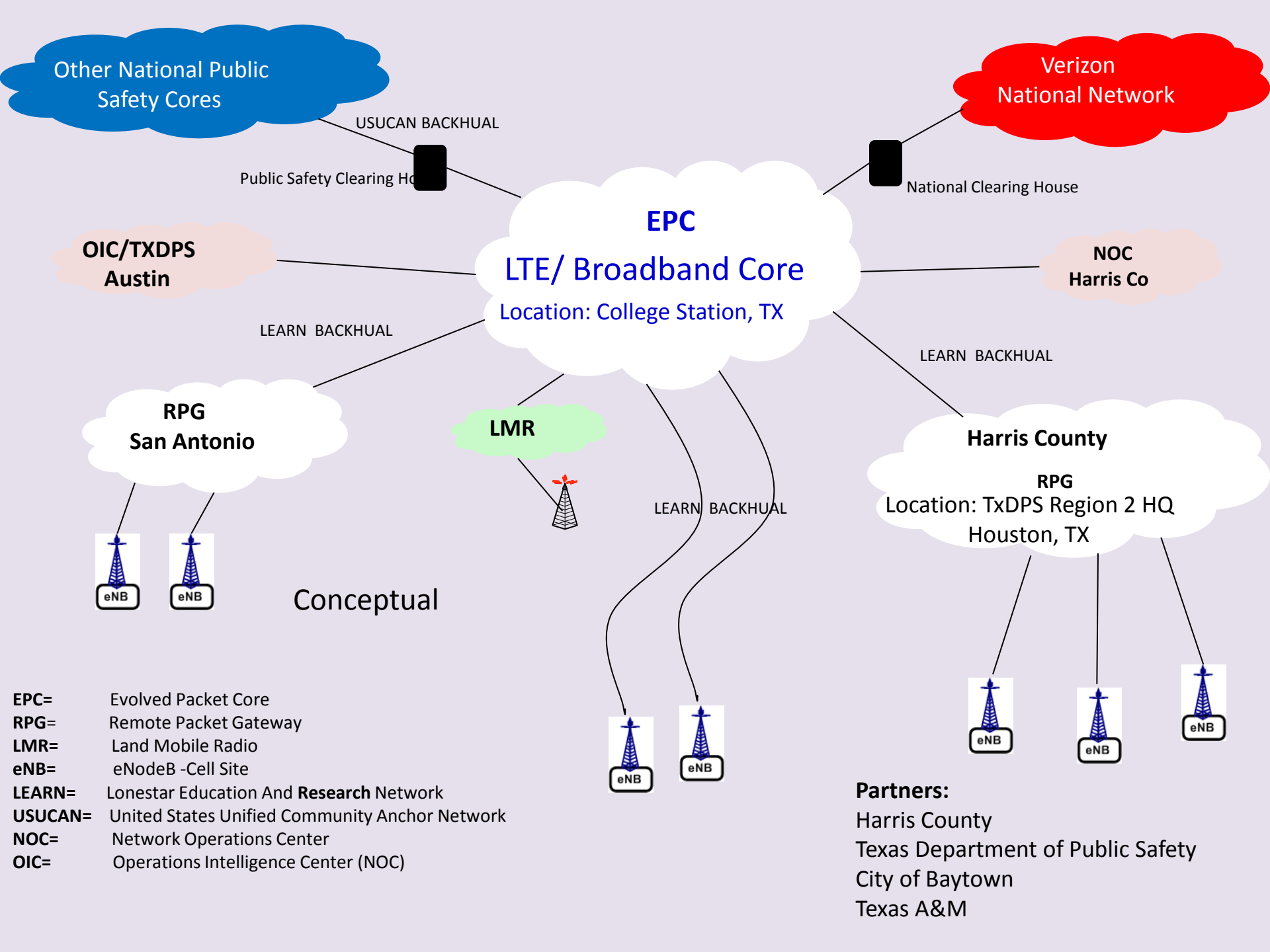
Emergency Communications

- NG 9-1-1
 - Development and Standards activity
 - Interoperability testing
 - US DoT Proof of Concept
- 4G wireless (LTE)
 - Interconnecting Public Safety and carrier networks.
 - US UCAN use for backbone



NG 9-1-1





Other National Public Safety Cores

Verizon National Network

EPC
LTE/ Broadband Core
 Location: College Station, TX

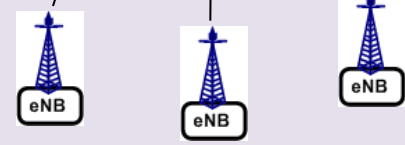
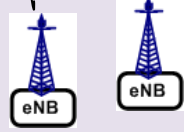
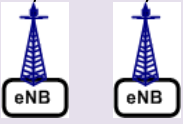
OIC/TXDPS Austin

NOC Harris Co

RPG San Antonio

LMR

Harris County
 RPG
 Location: TxDPS Region 2 HQ
 Houston, TX



- EPC=** Evolved Packet Core
- RPG=** Remote Packet Gateway
- LMR=** Land Mobile Radio
- eNB=** eNodeB -Cell Site
- LEARN=** Lonestar Education And **Research** Network
- USUCAN=** United States Unified Community Anchor Network
- NOC=** Network Operations Center
- OIC=** Operations Intelligence Center (NOC)

- Partners:**
 Harris County
 Texas Department of Public Safety
 City of Baytown
 Texas A&M

Next Steps

Internet2 Initiatives

IPTV trial – Multicast MPEG4 video

AVST – video addressing

SIP based

Support for all forms of video

E.164 based

Cloud/Hosted SIP Centrex

IMS integration with carriers

SIP over LTE



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