

# Network Identifiers Study Item Meeting #6 Waiver Implementation



Public Safety Communications Research

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# PSCR Proposal

We're developing proposed recommendations based upon the inputs received to be utilized, as seen fit, by the the relevant policy makers and network operator(s).

We'll be testing these recommendations in our demonstration network and are striving to have initial results for the March meeting.

# Waivers

1. City of Boston
2. City and County of San Francisco, City of Oakland, City of San Jose, CA
3. State of New Jersey
4. City of New York
5. City of San Antonio, TX, on behalf of the San Antonio Urban Area Security Initiative Region
6. City of Chesapeake, VA
7. State of New Mexico
8. City of Charlotte, NC
9. State of New York
10. District of Columbia
11. County of Maui, County of Hawaii, County of Kauai, City and County of Honolulu, and the State of Hawaii
12. City of Seattle, WA
13. Adams County, CO Communications Center
14. City of Pembroke Pines, FL
15. Los Angeles Regional Interoperable Communications System (LA-RICS)
16. Iowa Statewide Interop. Comms. System Bd.
17. Calumet, Outagamie and Winnebago Counties, WI
18. Mississippi Wireless Communications Commission
19. City of Mesa, AZ and the TOPAZ Regional Wireless Cooperative
20. State of Oregon
21. State of Texas

# Deployments

- Who's Building – 7 BTOP awards + State of Texas
  1. City and County of San Francisco, City of Oakland, City of San Jose, CA
  2. State of New Jersey
  3. State of New Mexico
  4. City of Charlotte, NC
  5. Adams County, CO Communications Center
  6. Los Angeles Regional Interoperable Communications System (LA-RICS)
  7. Mississippi Wireless Communications Commission
  8. State of Texas
- Initial total BTOP projection by waiver recipients is 116,402 users
  - Does not factor in Texas users
  - Does not fully account for all M2M or redundant devices
- No other waivers in the OAC have made public announcements for deployments in 2012
- In lieu of pending legislation, current funding – the focus of the network ID allocation will be primarily on the early builders and then the remaining waiver recipients

# Network IDs Review

- PSCR determined five initial identifiers (with additional sub-identifiers) that require national management
  1. IMSI -- includes PLMN (MCC + MNC) & MSIN
  2. TAI – Tracking area ID
  3. GUTI – Globally Unique Temporary UE ID
  4. ECGI - E-UTRAN Cell Global ID
  5. APN – Access Point Name
- Further research showed that some “permanent” LTE (non-IMS) network identifiers need to be managed or coordinated at some level. This includes:

MMEI	MMEC	MMEGI	IMEI/SV*	TAC
ECI	Global eNB ID	eNB ID	IMEI*	HA-APN
GUMMEI	TAI List	P-GW ID	MSISDN**	*MBMS

\*Partially out of scope  
\*\*Includes eNUM and all numbering plan info

# Adams County Example ID Usage

Waiver	DHS Region	50K Block Allocations	MSIN Range	# of eNB ID	# of eNB ID 128 Blocks	ECGI	TAC Range	Regional MMEGI	MMEC Ranges
Adams County, CO	8	1	174750000 - 174799999	128	1	139C4	4F09-4F0B	0050	C3

- Values derived from PSCR Guidelines

- IMSI Range: 312911174750000 - 1747999999
- TAI Range = 4F09 – 4F0B
- GUMMEI = 3129110050C3
  - MMEGI = 0050
  - MMEC = C3
  - MMEI = 0050C3
- ECGI Range = 31291180324001 - 31291180451006
  - eNB ID = 80324 - 80452
    - Cell ID = allocate as necessary per eNB ID
- APN
  - Use national APNs
    - **ims.publicsafety.apn.epc.mnc911.mcc312.3gppnetwork.org**
    - **mcvoice.publicsafety.apn.epc.mnc911.mcc312.3gppnetwork.org**
    - **mgmt.publicsafety.apn.epc.mnc911.mcc312.3gppnetwork.org**
    - **local.publicsafety.apn.epc.mnc911.mcc312.3gppnetwork.org**
  - Custom APN e.g.
    - **adamsco.police.co.fema8.apn.epc.mnc911.mcc312.3gppnetwork.org**

# How Does PS get a PLMN ID?

- Public Safety needs to acquire a PLMN ID from the ATIS IOC
  - This can be accomplished in a variety of ways (No particular order):
    1. ATIS IOC changes internal rules and assigns a permanent PLMN ID to public safety
    2. Public Safety Broadband Licensee (PSBL) applies to ATIS IOC
    3. Recognized Operating Agency (ROA) applies to ATIS IOC on behalf of PSBL
    4. FCC PSHSB ERIC applies to ATIS IOC
    5. Third party organization (e.g. APCO) applies to ATIS IOC on behalf of PSBL

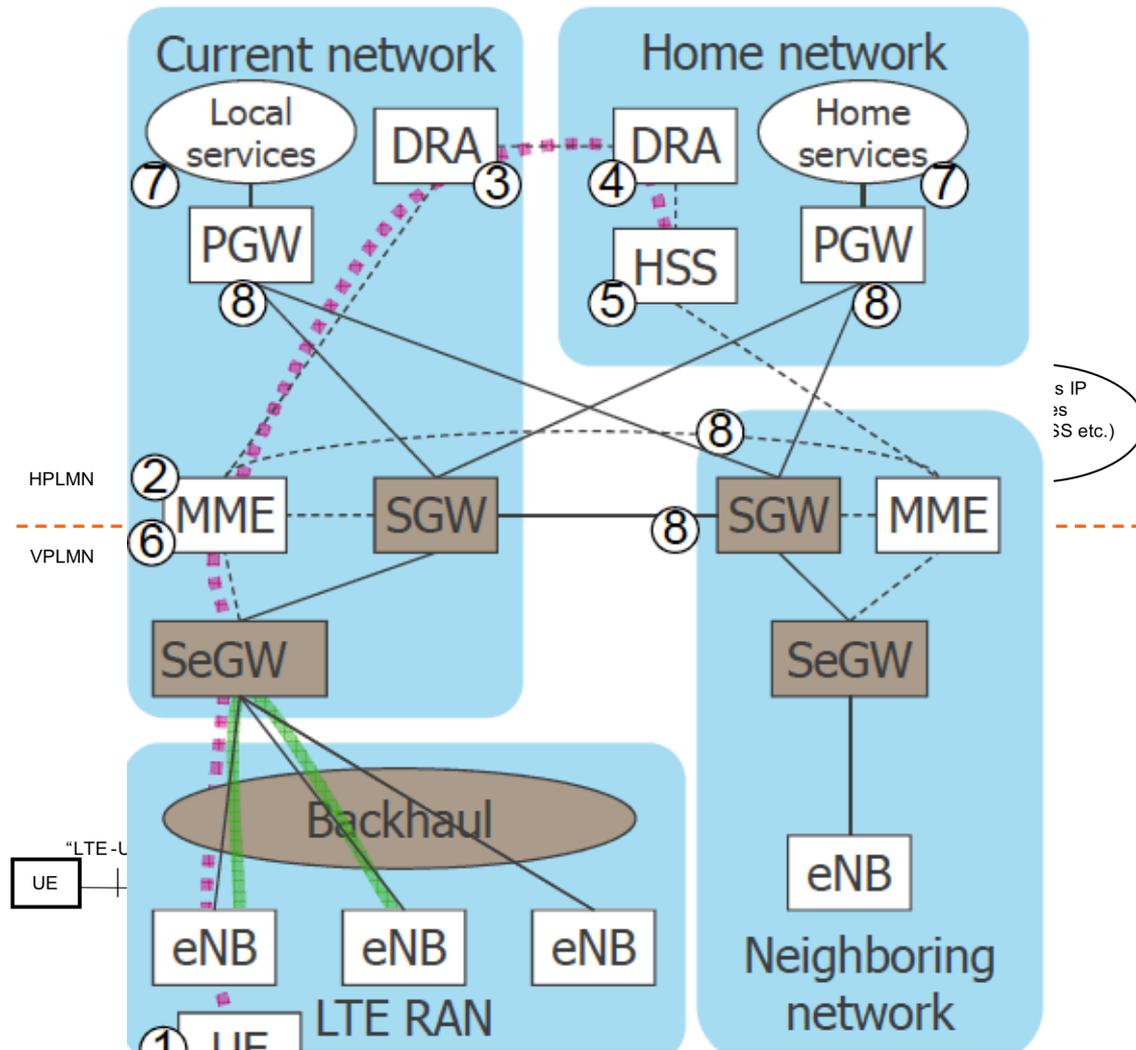
# Who manages the LTE Network IDs?

- PSCR Study Item has shown that the major LTE IDs need to be managed and allocated nationally to ensure interoperability
- Administration of IDs is not necessarily complicated or expensive but will require trusted & secure access by PS (e.g. secure SQL/Web interface)
- Recommend that this issue is settled before PLMN ID is assigned

# Additional Issues

- How do waivers coordinate and implement the five critical LTE IDs?
- How do waivers interconnect with each other (later discussion).

# How does PS interconnect their networks





For Additional Information:

<http://www.pscr.gov>

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