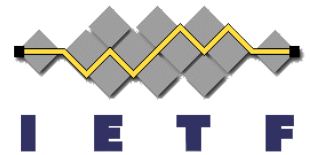# IPv6 in 3GPP Evolved Packet System

IETF#80 V6OPS WG, 31-March-2011
draft-korhonen-v6ops-3gpp-eps-06

J. Korhonen, J. Soininen, B. Patil, T. Savolainen, G. Bajko, K. Iisakkila

Outline

- ## History & Timeline

- ## Updates since IETF#79
    - Operational aspects of IPv6-only
    - IPv6 Address configuration clarifications
    - IPv6 Roaming considerations
    - Inter-RAT handovers and fallback scenarios
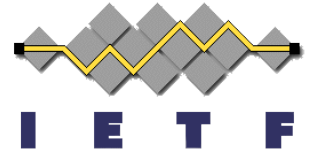
- ## Next Steps

History & Timeline

- First presented in IETF-3GPP workshop in SFO just before IETF#74; to document how IPv6 fits into 3GPP EPC..

- Presentations in IETF#77 and #79.

- Since then (-00) the draft has evolved to cover important parts of IPv6 from pre-Rel-8 (GPRS), Rel-8, Rel-9 and some Rel-10.
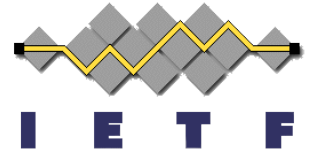
Updates since IETF#79

- Made the draft "opinion neutral"
  - Only documents what is specified by 3GPP.

- Operational aspects of IPv6-only networks
  - Basic gotchas documented from 3GPP PoV.
  - Removed some pros associated with dual-stack approach.

- IPv6 Address configuration clarifications
  - About /64 uniqueness,
  - GGSN/PGW generated IID, and
  - Handling of PIOs.
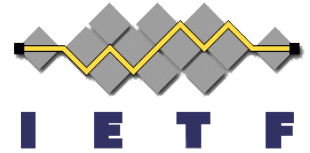
Updates since IETF#79 cont'd

- IPv6 Roaming considerations:
  - There is motivation to restrict IPv6 roaming when it does not officially exist or the service quality cannot be guaranteed..
  - Discuss ways to enable / prohibit roaming in case by case granularity.. currently no standardized method available.

- Inter-RAT handovers and fallback scenarios:
  - There are IPv4, IPv6 and IPv4v6 PDN Types to select from.
  - There are IPv4, IPv6, IPv4v6 and IPv4_or_IPv6 in provisioning
  - Which type to select depends on settings in UE, MME, HSS/HLR and GGSN/PGW.. not to forget legacy SGSNs that may modify requested types in between.
  - UE may receive an indication whether opening two bearers to mimic IPv4v6 is ok or not if requesting IPv4v6 fails etc.

Possible additional content considerations..

- The draft is ~ready content/topic wise, however:
  - One could add some text related to RFC3316 recommendations, although the RFC is not about EPC.
  - Also a reference to RFC3314, although the RFC is not about EPC.

Question to v6ops WG

- **Adopt this I-D as v6ops WG doc?**

  - **Can proceed to WGLC immediately since content is fairly complete**