# Mapping PMIP QoS to WiFi Networks

(draft-kaippallimalil-netext-pmip-qos-wifi-02)

IETF 87 Berlin, Germany

# Updates from version-01 to 02

Revision to address comments to version-01:

- QoS Mechanism description (chapter 2)
  - no changes
- Connection Model (chapter 3)
  - revised connection model and figure based on comments.
- Policy Provisioning Architecture (chapter 4)
  - no changes
- PMIP – 802.11e mapping
  - no changes
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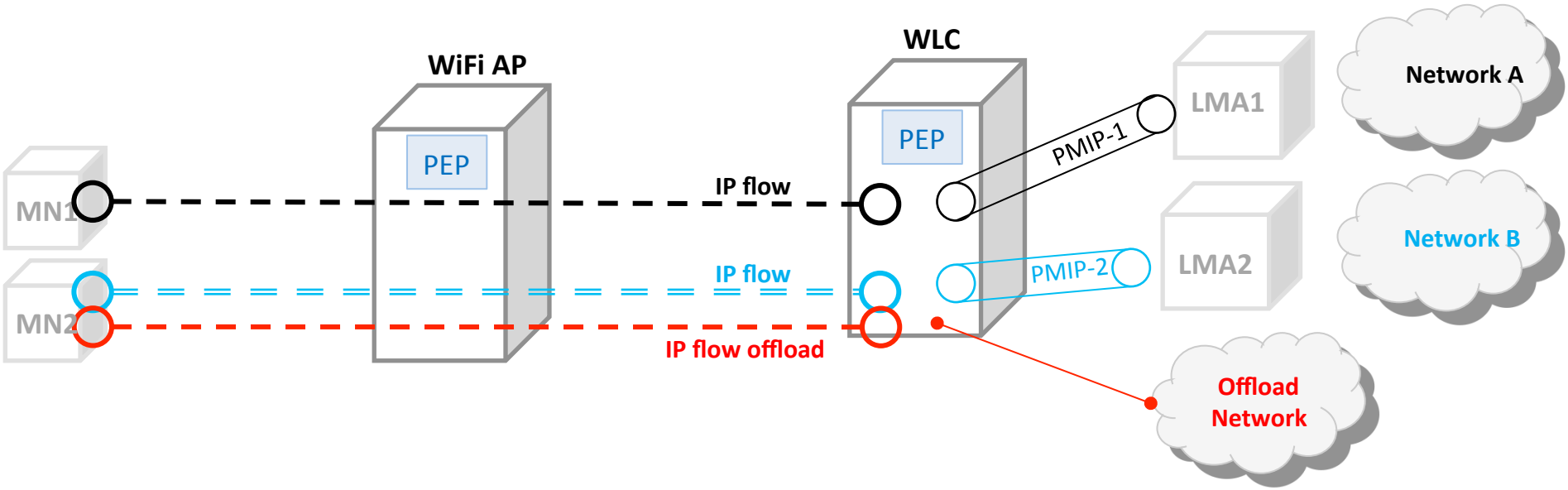
# Why do we need per user QoS in AP?

- WiFi radio is a limited resource and has to be managed to achieve better and fair utilization.
  For example, during WiFi radio congestion or for services like VoIP, per user/flow scheduling and policing can utilize the scarce resources better.
- QoS Policies may be statically configured in WiFi AP on per service basis. However, it cannot differentiate per user.
- Per user QoS policies for PMIP mobile sessions between MAG – LMA are available. DSCP of these flows can be used to prioritize flows at WiFi AP. However, other per user information (ARP, AMBR, GBR) is lost.
- Mapping from parameters in PMIP QoS to 802.11e AC + other QoS parameters needs to be consistent when different providers and equipment are configured.

Gap: per user QoS policies at WiFi AP.

# Connection Model

(revised in 02 - Figure 1)




a) QoS flows at the AP

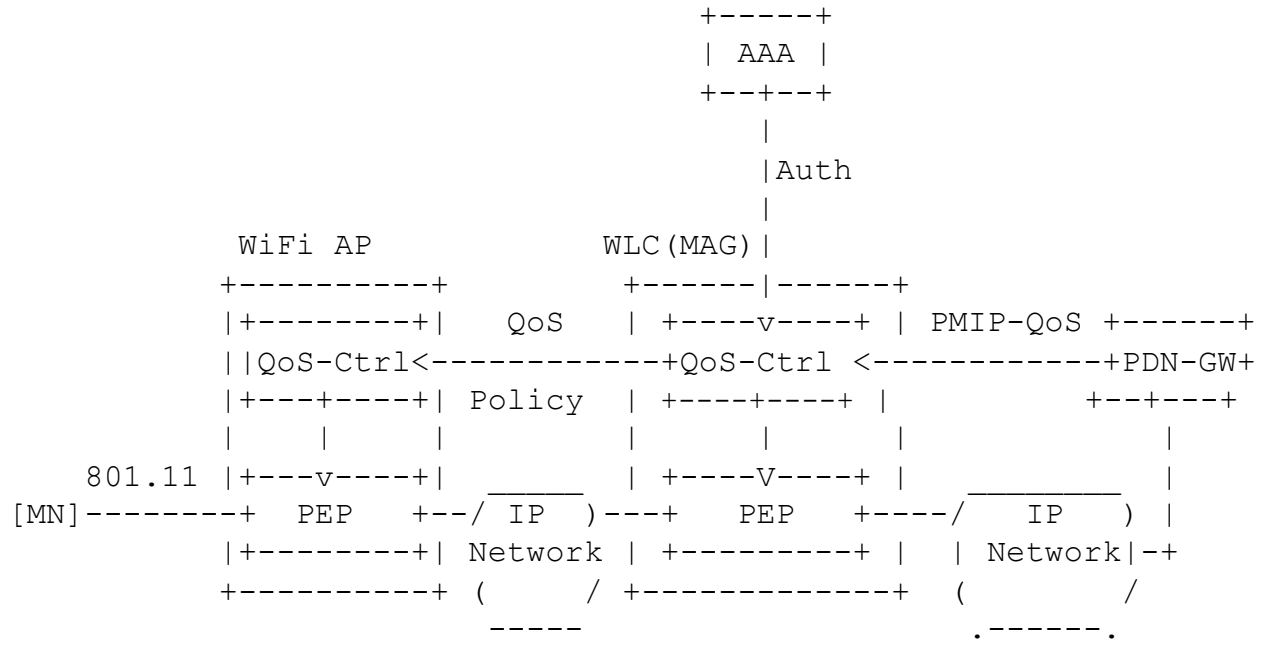
- IP flows to PMIP, offload from end users.

b) Traffic filters for applying QoS

{MAC address, IP address, port}

# QoS Policy Provisioning on AP

(revised from version 00 to 01)




a) QoS information signaled from WLC to WiFi AP.
   (draft does not propose a protocol)

b) Mapping from PMIP QoS to 802.11e AC, parameters

# PMIP – 802.11e Mapping
## (same as revision 00)

| QCI | DSCP | 802.11e AC | Example 3GPP service |
|---|---|---|---|
| 1 | EF | 3 AC_VO | conversational voice |
| 2 | EF | 3 AC_VO | conversational video |
| 3 | EF | 3 AC_VO | real-time gaming |
| 4 | AF41 | 2 AC_VI | buffered streaming |
| 5 | AF31 | 2 AC_VI | IMS signaling |
| 6 | AF31 | 2 AC_VI | buffered streaming |
| 7 | AF21 | 0 AC_BE | interactive gaming |
| 8 | AF11 | 0 AC_BE | web access |
| 9 | BE | 1 AC_BK | e-mail |

Table: QoS Mapping between QCI, WMM, 802.11e AC

a) Mapping of QCI/ DSCP → 802.11e AC (in table above)

# IETF next steps

Adopt as working group draft?