Mapping PMIP QoS to WiFi Networks
(draft-kaippallimalil-netext-pmip-qos-wifi-01)
Updates from version-00 to 01

Revision to address comments, questions on version-00:

- **QoS Mechanism description (chapter 2)**
  - no changes

- **Policy Provisioning Architecture (chapter 3)**
  - revision to be more inline with PMIP QoS

- **Connections and QoS Mapping (chapter 4)**
  - new content to address questions from last meeting.

- **PMIP – 802.11e mapping**
  - no changes

- **Next Steps section**
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.
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
a) **QoS flows at the AP**
- IP flows, tunneled flows from end users.

b) **Traffic filters for applying QoS**
{MAC address, IP address, port}
PMIP – 802.11e Mapping
(same as revision 00)

<table>
<thead>
<tr>
<th>QCI</th>
<th>DSCP</th>
<th>802.11e AC</th>
<th>Example 3GPP service</th>
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<td>1</td>
<td>EF</td>
<td>3 AC_VO</td>
<td>conversational voice</td>
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<tr>
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<td>EF</td>
<td>3 AC_VO</td>
<td>conversational video</td>
</tr>
<tr>
<td>3</td>
<td>EF</td>
<td>3 AC_VO</td>
<td>real-time gaming</td>
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<td>AF41</td>
<td>2 AC_VI</td>
<td>buffered streaming</td>
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<td>2 AC_VI</td>
<td>IMS signaling</td>
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<td>AF31</td>
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<td>buffered streaming</td>
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<td>BE</td>
<td>1 AC_BK</td>
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</tr>
</tbody>
</table>

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

a) Mapping of QCI/ DSCP \(\rightarrow\) 802.11e AC (in table above)
b) Need further work on general recommendation for how AP handles ARP, MBR, GBR.
IETF next steps

Continue refining open questions (in next steps).

Consider adoption as working group draft?