EAP Attributes for PMIP6-based Trusted WiFi
draft-valmikam-eap-attributes-wifi-epc-integration
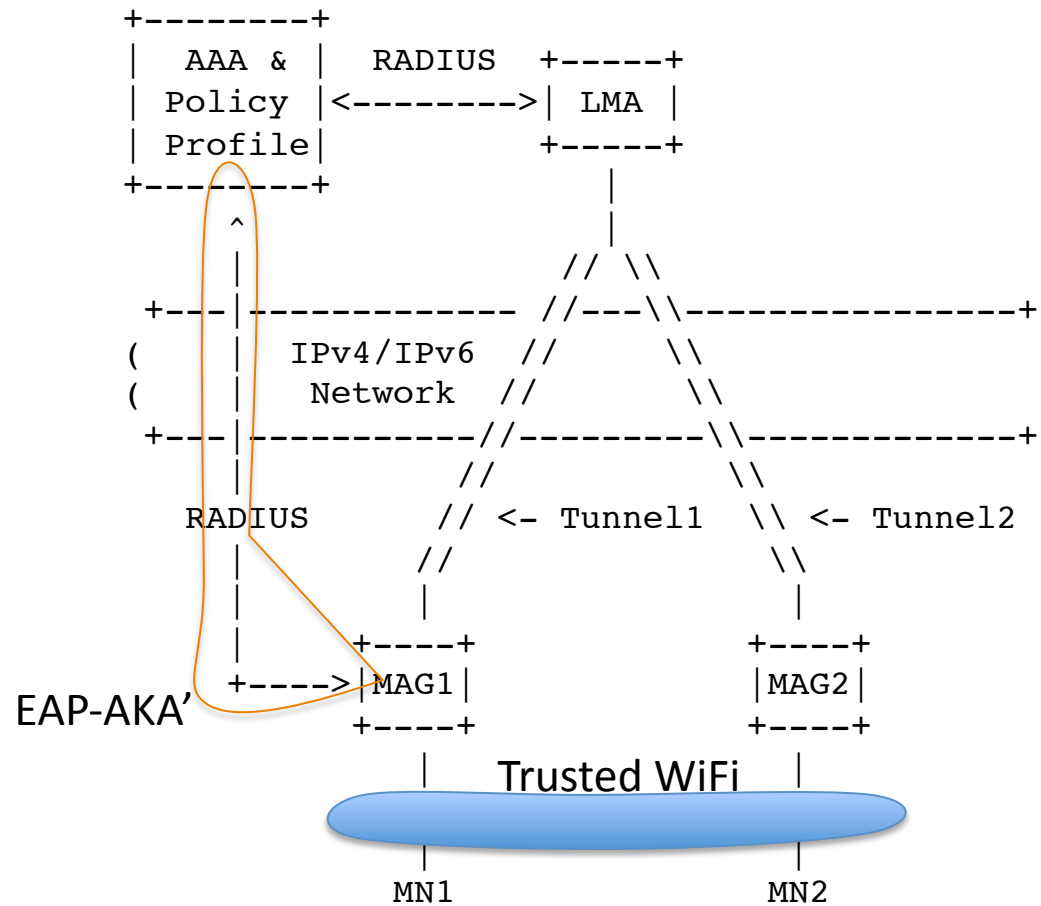
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- Trusted WiFi is emerging as a new access in mobile networks
- Trusted WiFi lacks some functions commonly found in other mobile accesses (EUTRAN, eHRPD)
  - APN indication
  - Handover Indication
  - Multiple APNs
- These functions are necessary to enable PMIP6-based WiFi integration into mobile packet core

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- Defines new EAP attributes
- The attributes are used in *existing* EAP Authentication and Fast Re-authentication procedures [3GPP TS 33.402]
- The attributes serve as trigger for the corresponding PMIP6 signaling
- The attributes can be used by other protocols (beyond the scope of Netext)

PMIP6 – AAA Model

```
              +--------+
              | AAA &  |  RADIUS   +-----+
              | Policy |<-------->| LMA |
              | Profile|          +-----+
              +--------+             |
                 ^                   |
                 |                  // \\
           +---|---------- //---\\-----------+
           (    |  IPv4/IPv6  //     \\           )
           (    |  Network  //        \\          )
           +---|-----------//----------\\---------+
                |         //             \\
           RADIUS       // <- Tunnel1  \\ <- Tunnel2
                |      //                \\
                |     |                   |
                |   +----+             +----+
            +---->|MAG1|             |MAG2|
   EAP-AKA'      +----+             +----+
                    |   Trusted WiFi  |
                    |                 |
                   MN1               MN2
```

draft-ietf-netext-radius-pmip6

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- APN Selection attribute
  - Identifies the APN the MN would like to use
  - MN includes AT_VIRTUAL_NETWORK_ID in EAP-Response/AKA-Challenge
  - Once EAP is successful, the MAG uses the attribute in PBU (Service Selection option)

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- Handover Indication attribute
  - Enables the MN to indicate handover or a separate session
  - MN includes AT_HANDOVER_INDICATION in EAP-Response/AKA-Challenge
  - Once EAP is successful, the MAG uses the attribute in PBU (Handover Indication)
  - MN MAY include an optional Session ID (AT_HANDOVER_SESSION_ID) when AT_HANDOVER-INDICATION = 1
    - AT_HANDOVER_SESSION_ID identifies the session on the other access (EUTRAN, UTRAN)

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- Multiple APN Indication
  - Enables the MN to signal a new APN (set up, teardown)
  - MN includes AT_VIRTUAL_NETWORK_REQ in EAP-Response/Identity in the EAP Fast Re-authentication message
  - A *Connect* or a *Disconnect* flag accompanies the AT_VIRTUAL_NETWORK_ID (i.e., the APN in question)
  - When Fast Re-authentication is successful, the MAG uses the attribute in PBU signaling (new mobility session, binding de-registration)