Quality of Service Option for Proxy Mobile IPv6

draft-liebsch-netext-pmip6-qos-01.txt

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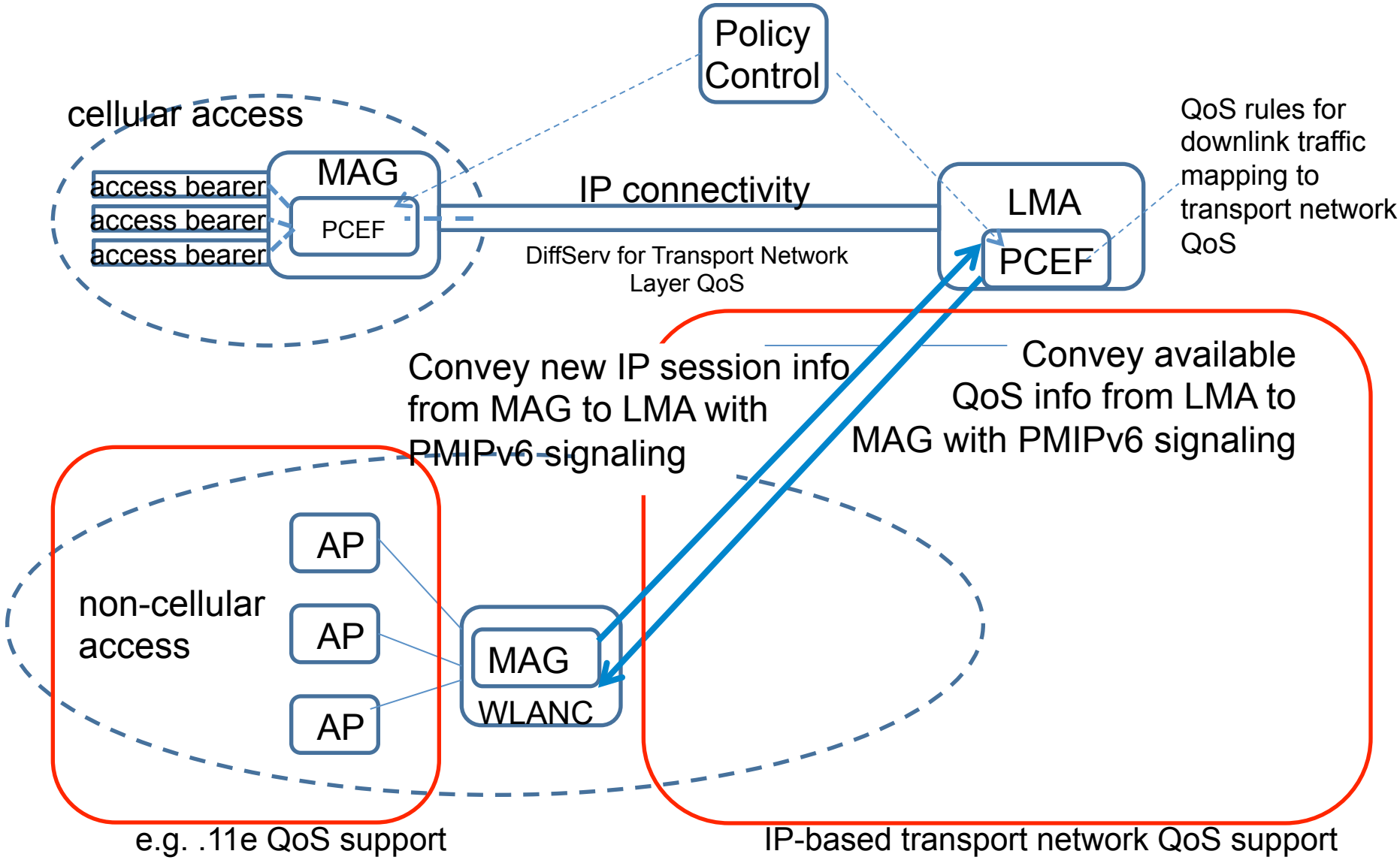
Motivation and Scope

- Mobile operator systems enable QoS differentiation to serve mobile access through cellular radio
  - QoS policy control for 3G radio access from Policy and Charging Control (PCC) system
- Connectivity through non-cellular acccess supported for offload and/or handover (WiFi, WiMax)
- IP network QoS accomplished by DiffServ mechanisms
- No QoS interworking so far between cellular and non-cellular radio access
  - Standardization started interfacing PCC to MAG for non-cellular radio access
- Demand for a PCC-independent solution
  - For networks, which do not deploy a PCC system
  - For all networks until PCC support is available for non-cellular access

Status

- Initial version of this draft presented at IETF82 in Taipei
- Received valuable comments and indication of interest in this work
- Updated draft tries to clarify comments
- Updated draft comprises details about
  - Use cases
  - Protocol operation
  - QoS option format and proposed list of attributes
  - Implementation and deployment example with WiFi & BNG (Broadband Network Gateway)

Exemplary architecture



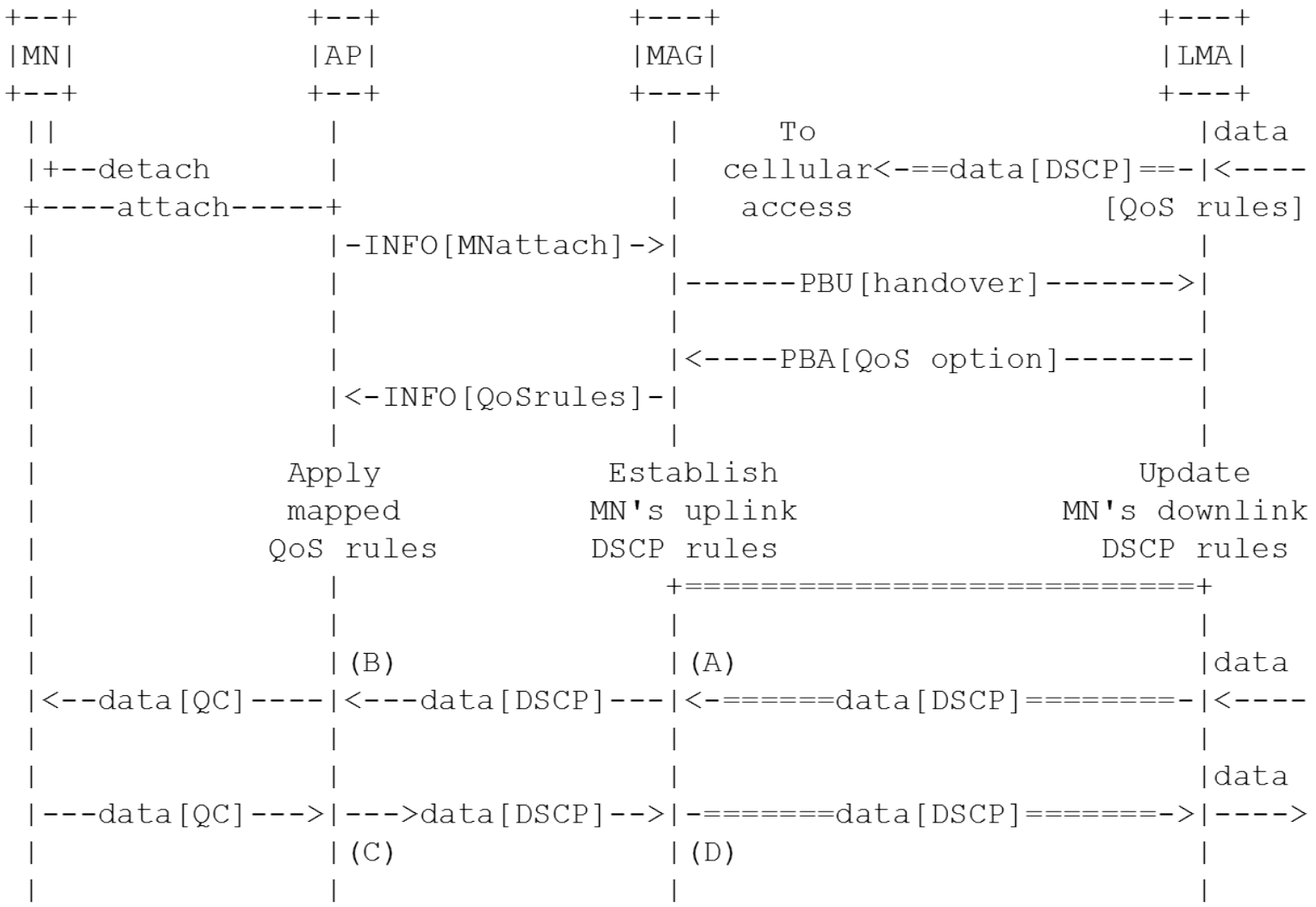
Scope of this work

- Support enabling QoS differentiation of traffic between MAG and LMA for any non-cellular access
  - Mainly enforcement and validation of uplink QoS at the MAG
- Support mapping of QoS policies between radio-specific QoS classes and IP network
  - Transport of Flow Information and QoS Class indexes
  - Interpretation of QoS Class indexes is deployment specific, hence out of scope
- Focus on the signaling between MAG and LMA

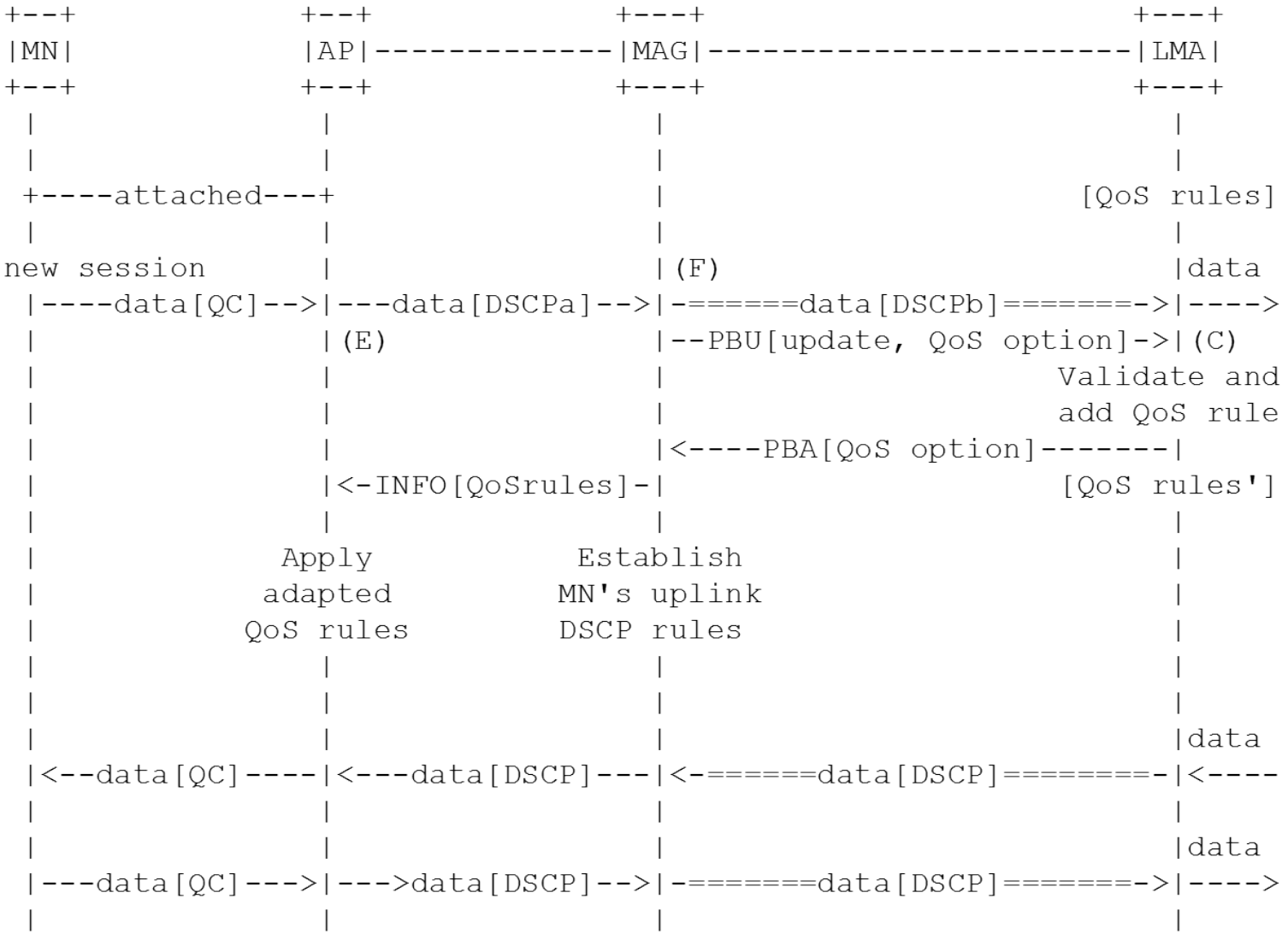
Main Use Cases

- Handover of established QoS rules to non-cellular radio access
  - Apply same QoS differentiation on the path between LMA and MAG, which serves the MN ‘s non-cellular technology
  - Enable mapping of admitted QoS classes to QoS differentiation techniques of non-cellular access, e.g. .11e
- Establishment of QoS rules while MN is attached to non-cellular radio access (i.e. QoS rules negociation)
  - MAG may propose QoS rules to LMA for approval
    - Priority class indicated in uplink
    - MAG may assess QoS according to flow information
    - MN may utilize access-specific control plane (e.g. WMM) to indicate demant for QoS differentiation
  - LMA authorizes proposed QoS or assesses QoS according to flow information

Operation: Handover of QoS rules



Operation: Establishment of QoS rules



Next

- Is this work and document going into the right direction?
- Interest indicated at last IETF: Adopt as Working Group item?