Mobility-aware Floating Anchor (MFA)

(https://www.ietf.org/id/draft-gundavelli-dmm-mfa-00.txt)

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Draft and discussion status

- Draft published before and discussed at IETF101
  - Basic principles and operation
- ML discussion based on feedback
  - Includes advanced items and options for optimization
- Next revision to address these items at some level
Evolution of the Mobile User Plane – Objectives

- General: Meet requirements of future connectivity services
  - Device-type diversity, traffic mix, mobility/communication patterns, multi-tenancy, industry verticals, slicing, ..
  - Current study on enhancement for URLLC

- Access-independent date plane
- Leverage data plane programmability
- Leverage a variety of data plane protocols for a tailored data plane
- Enable optimized routes between mobile node and correspondent services / nodes
- Move from centralized/fixed anchors to decentralized data plane
- Enable inter-working/integration with the cellular system
Mobility Floating Anchors (MFA) – Key Aspects

- Move from single mobile gateway to programmable edges (mobile edge, correspondent edges) / **optimized routes**

- Apply default routes between edges while MN is at its initial attachment AG / **low number of data plane nodes impacted**

- Apply host state at correspondent edges when MN changes its AG / **enable IP address continuity and traffic steering**
  - Compatible with various data plane protocols, incl. SRv6 and ID-LOC separation
  - Enables use of default routes in the transport (in between MN/CN edges)
  - States can be of transient nature; not needed after MN IP address deprecated

- Flexibility in the enforcement of complementary data plane rules ( @ mobile edge, correspondent edges) / **programmatic flexibility**
  - Metering, Monitoring/Reporting, Gating, ...
MFA principles – Traffic routing after attach

Control Plane
Data Plane

HNP: P2::/64
LNP: L2::/64
MFA principles – Traffic steering after relocation

- Leverage Topology and Location awareness
- Compatibility with TN default routes
- On-demand programmatic states at communication edges

Control Plane
Data Plane

Topography and Location awareness
Compatibility with TN default routes
On-demand programmatic states at communication edges
Feedback

- More information about alternatives to SRv6

- Additional (non-)functional aspects
  - MN in DRX/Idle, dormant MN monitoring and paging, QoS

- Reactive vs. proactive states setup/update at correspondent edge

- Access-independence – Mobile edge may be access-specific

- Interfaces to data plane of non-cellular correspondent service

- Transient states at correspondent edges – Soft states?