

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

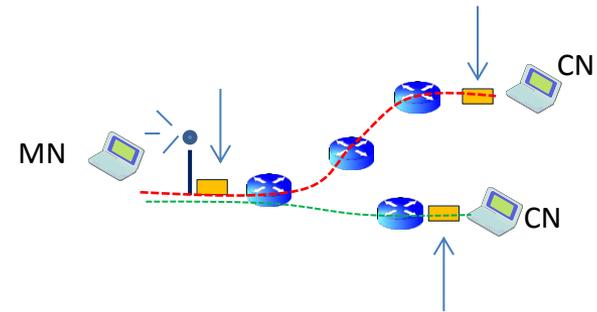
Evolution of the Mobile User Plane – Objectives

- 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

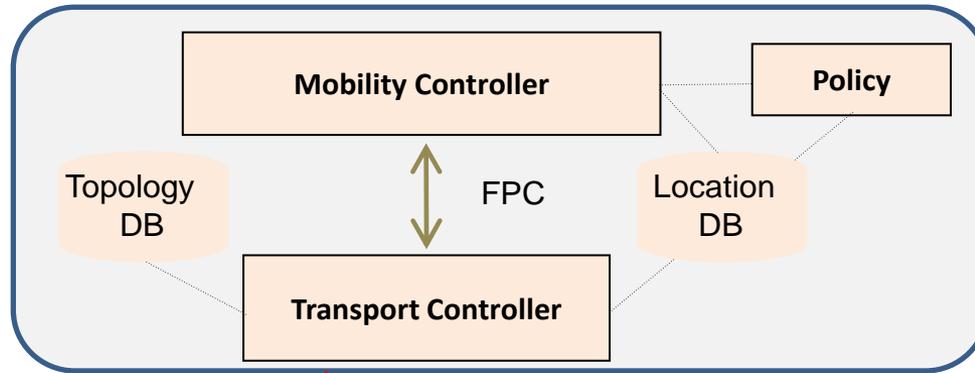
- Access-independent data plane
- Leverage data plane programmability
- Leverage a variety of data plane protocols for a tailored data plane
- Enable optimized routes between mobile node and correspondent services / nodes
- Move from centralized/fixed anchors to decentralized data plane
- Enable inter-working/integration with the cellular system

Mobility Floating Anchors (MFA) – Key Aspects

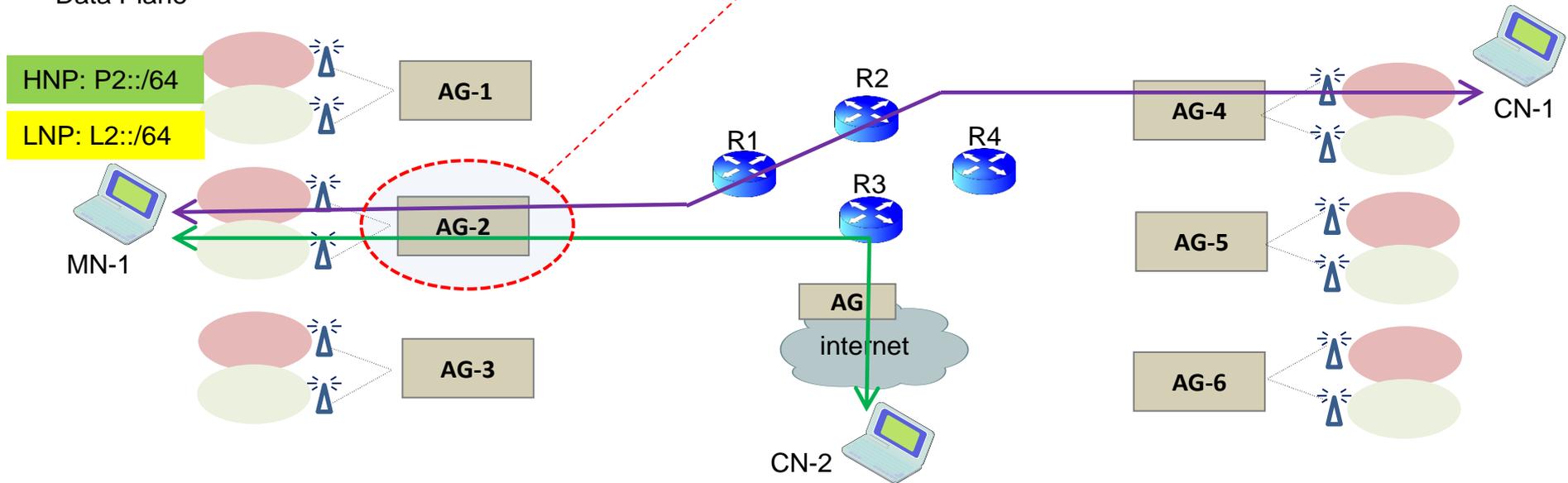
- Move from single mobile gateway to programmable edges (mobile edge, correspondent edges) / **optimized routes**
- Apply default routes between edges while MN is at its initial attachment AG / **low number of data plane nodes impacted**
- Apply host state at correspondent edges when MN changes its AG / **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

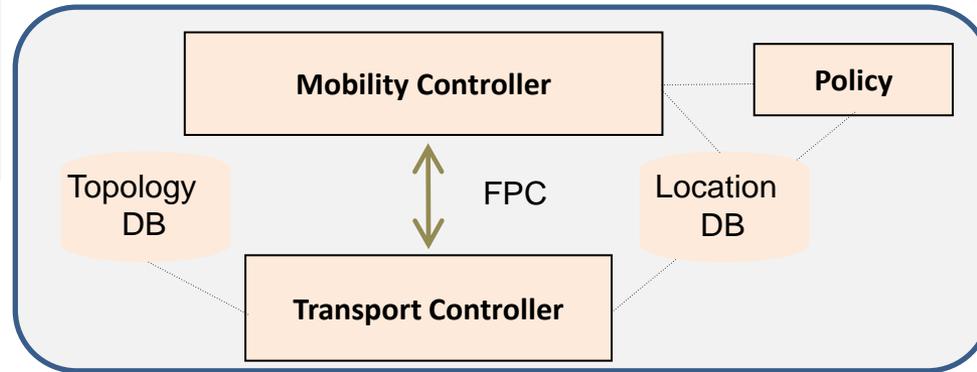


Control Plane
Data Plane

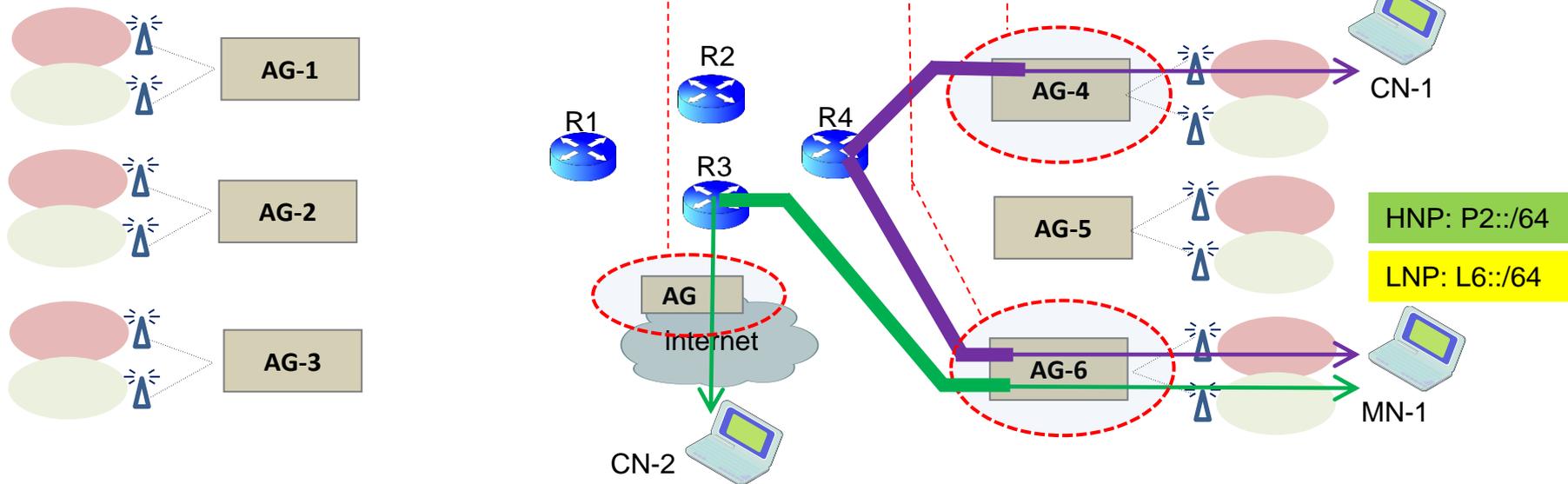


MFA principles – Traffic steering after relocation

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



Control Plane
Data Plane



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?