

# Co-existence of 5GS and ID-LOC Separation Architecture

I-D.homma-dmm-5gs-id-loc-coexist-01

Shunsuke Homma –NTT

Kenta Kawakami –NTT

Arashmid Akhavain – Huawei Canada Research Centre

# Background and Purpose

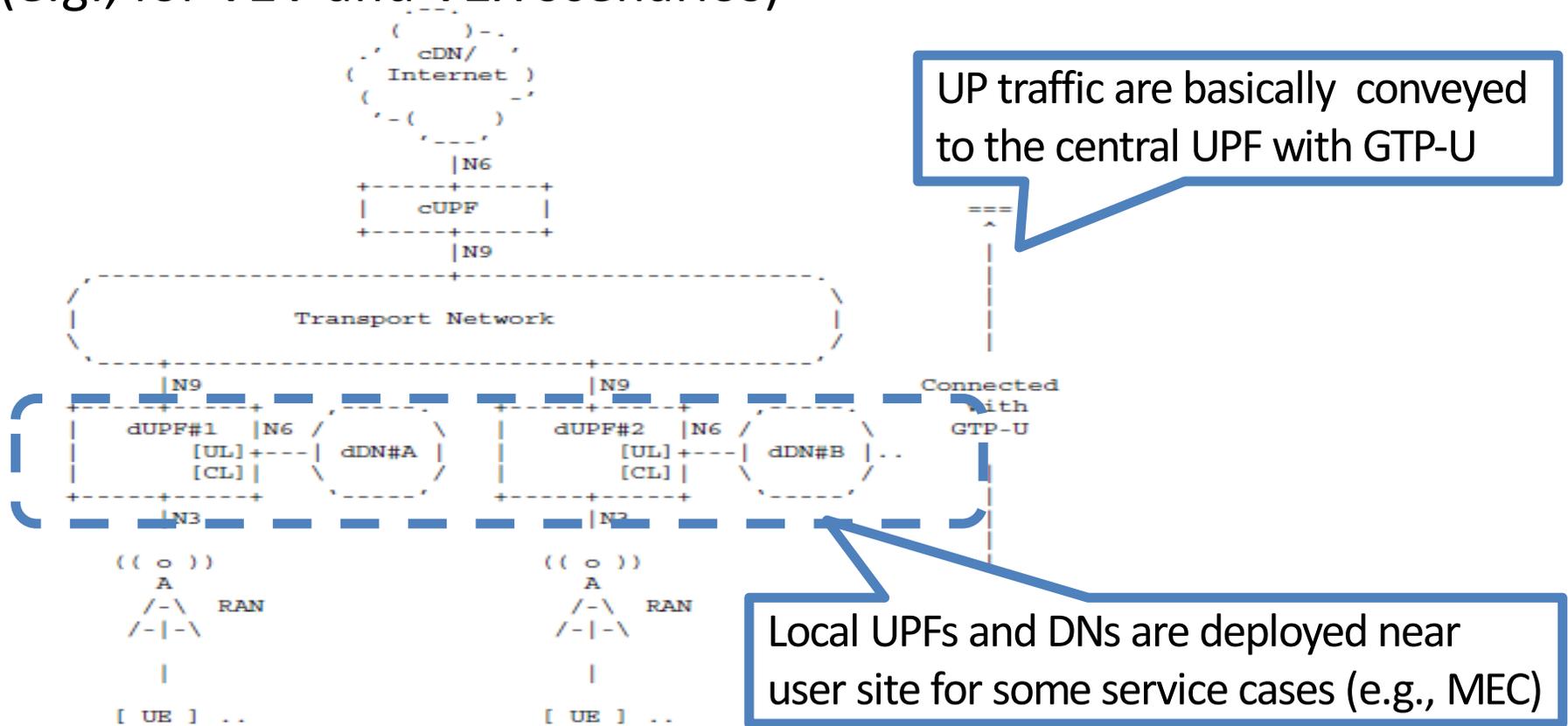
- This I-D is related to work of LS with 3GPP CT4, especially solutions about ID-LOC separation protocols.  
(ID-LOC separation protocols are expected to achieve enhanced mobility in mobile network)
  - The specifications of the 5GS rel15 is fixed, and 3GPP would dislike to change the 5GS specs.
- => This I-D provides an approach to introduce ID-LOC separation architecture with no or low impact to the 5GS specs.

# Summary

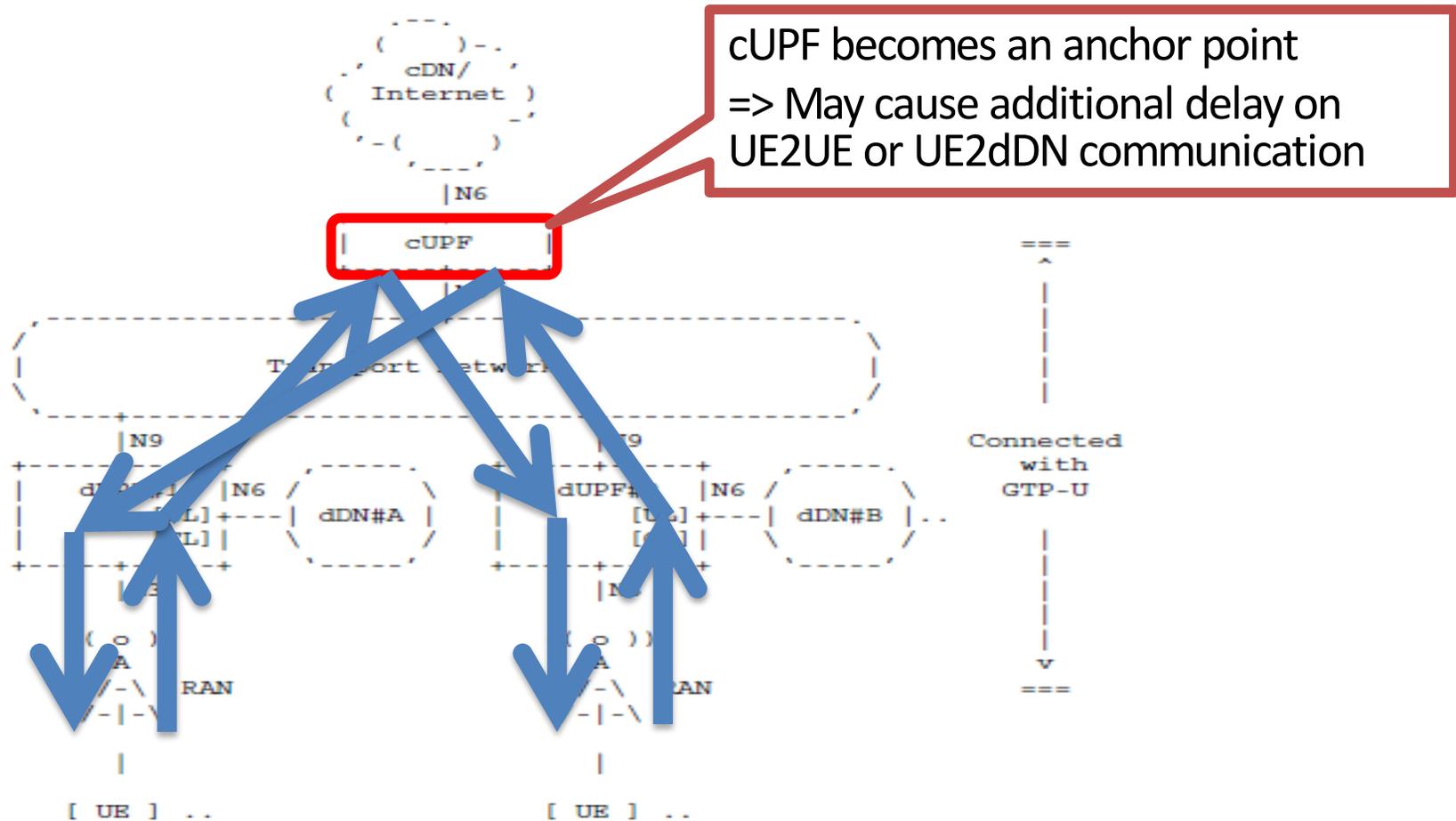
- ID-LOC architecture would be a solution to achieve enhanced mobility in mobile network.
- By utilizing 5GS's UL CL (Uplink Classifier) feature, ID-LOC architecture can be introduced to 5GC without any impact on the specification.
- This way will be a preferable migration path until 5GS natively supports ID-LOC separation features.

# Assumed Network Model

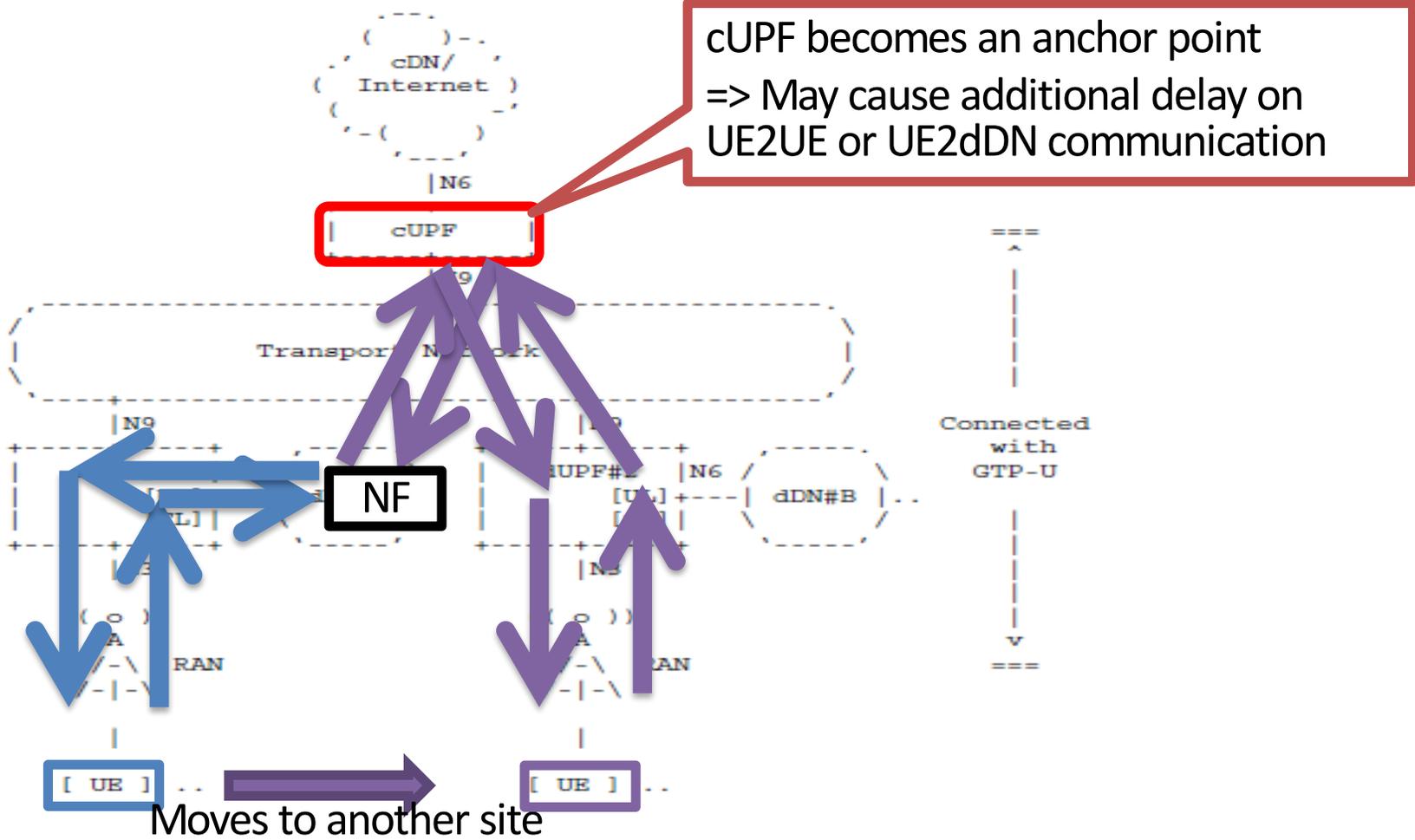
- Local UPFs are deployed geographically.  
(e.g., for V2V and V2X scenarios)



# Challenges on UE2UE communication



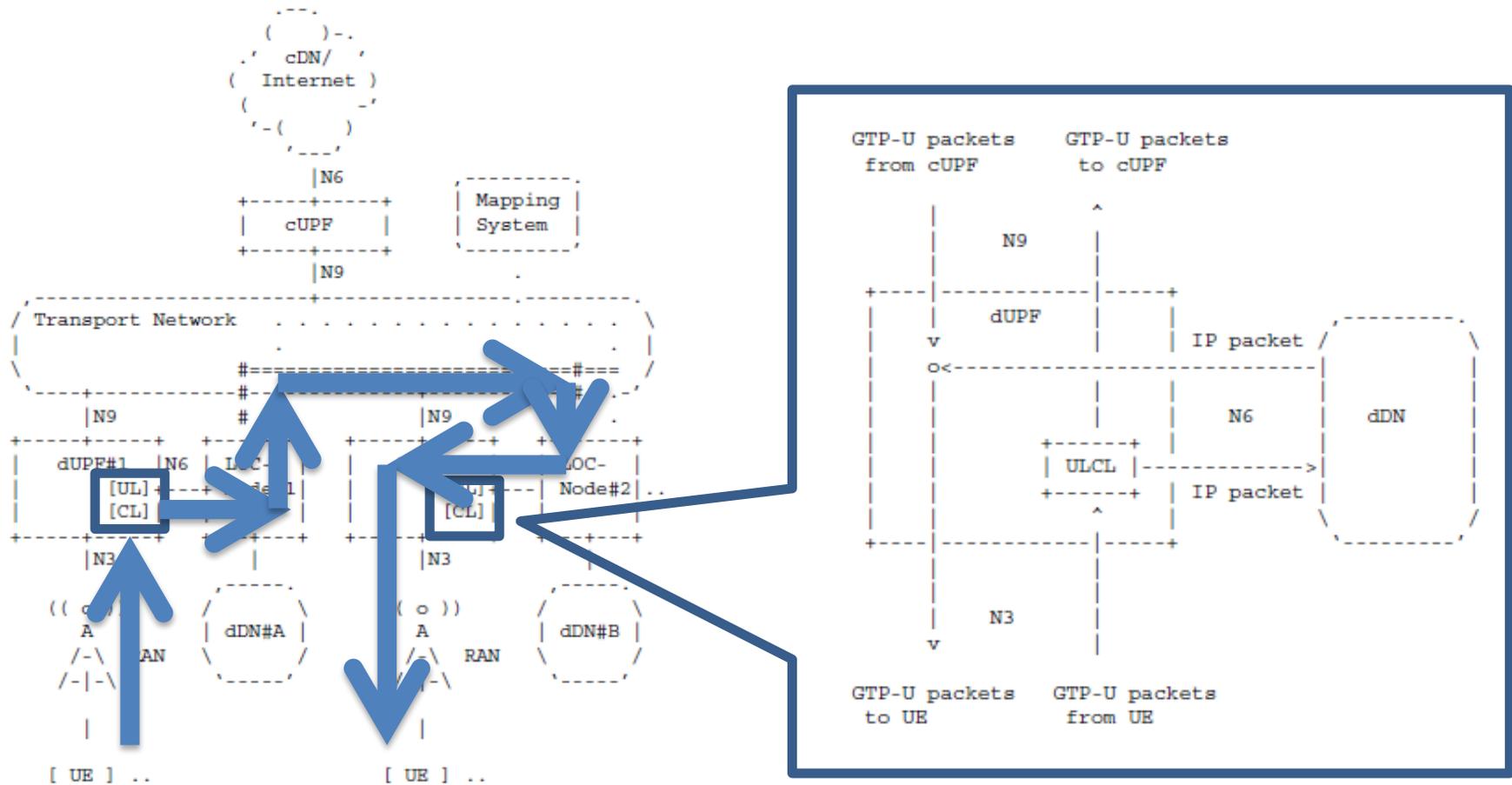
# Challenges on UE2dDN Communication



# Key Concepts

- This proposal uses UL CL (Uplink Classifier) as a fundamental function of UPF
- By utilizing UL CL, diverting just packets need to be forwarded with an anchor-less path to the ID-LOC domain

# Key Concepts



# UP/CP Features

- User Plane
  - GTP-U or any other UP protocol can be used in this approach
- Control Plane
  - Some interaction between ID-LOC Mapping System and SMF

# Conclusion (Repeated)

- By utilizing 5GS's UL CL (Uplink Classifier) feature, the proposal enables to introduce ID-LOC architecture into 5GC without any impact on the specification.
- This way will be a preferable migration path until 5GS natively supports ID-LOC separation features.

# Next Steps

- Feedback would be appreciated.
  - Will suggest this proposal as an option to introduce ID-LOC architecture to 3GPP. (draft-bogineni-dmm-optimized-mobile-user-plane-01 includes this as an option.)
- => Will be one of LS replies of DMM WG?

Thank you!  
Questions or Comments?