

Problem Statements for MIPv6 Interactions with GPRS/UMTS Packet Filtering

<http://www.ietf.org/internet-drafts/draft-chen-mip6-gprs-01.txt>

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60th IETF

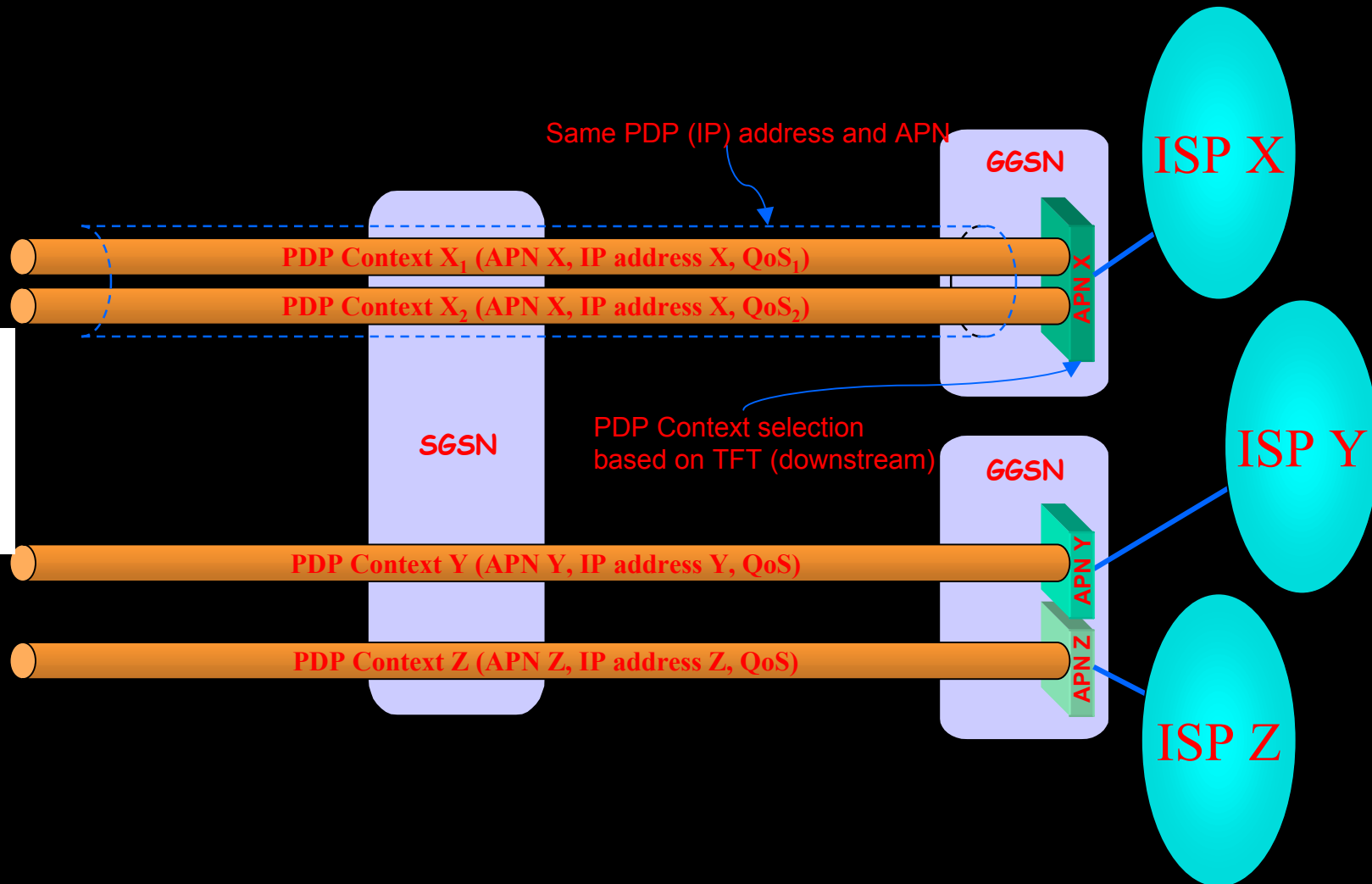
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Objectives

- Information for the group of possible applications of IP mobility in GPRS/UMTS
- Highlight the potential issues for Mobile IPv6 deployment in GPRS/UMTS
- Feedback and suggestions from the group experts.

Mobile Terminal Defined Packet Filtering

UMTS Bearer QoS Differentiation for IPv4/6 Traffic



Mobile Terminal Defined Packet Filtering

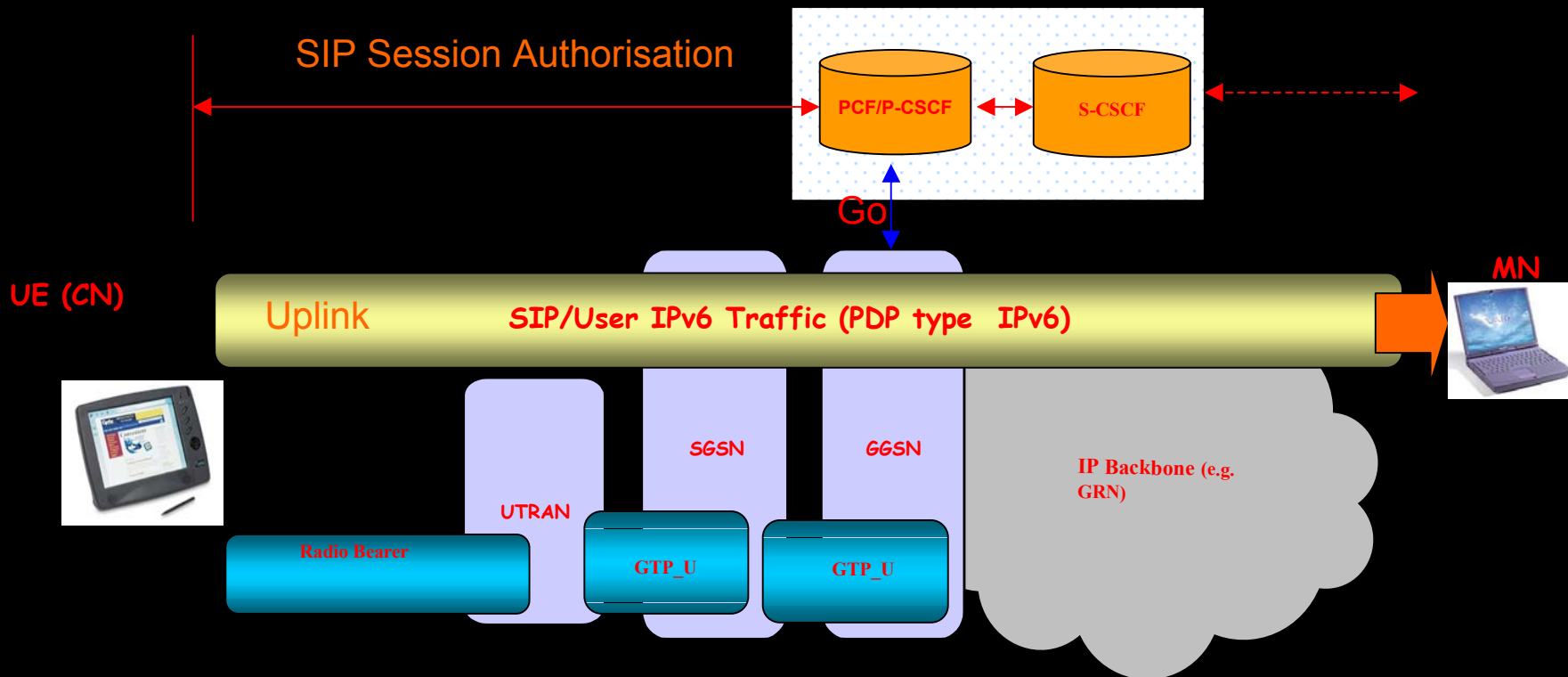
UMTS Bearer QoS Differentiation for IPv4/6 Traffic

Packet Filtering operation based on TFT (Traffic Flow Template)

- IPv4 source address type
- IPv6 source address type
- Protocol identifier/Next header type
- Single destination port type
- Destination port range type
- Single source port type
- Source port range type
- Security parameter index type
- Type of Service/Traffic Class type
- Flow Label type

Network Service Defined Packet Filtering

- IMS Service-based Local Policy Control (SBLP): “Gate Control” at the GGSN via Go interface for safeguarding the IMS Services and UMTS Resources.



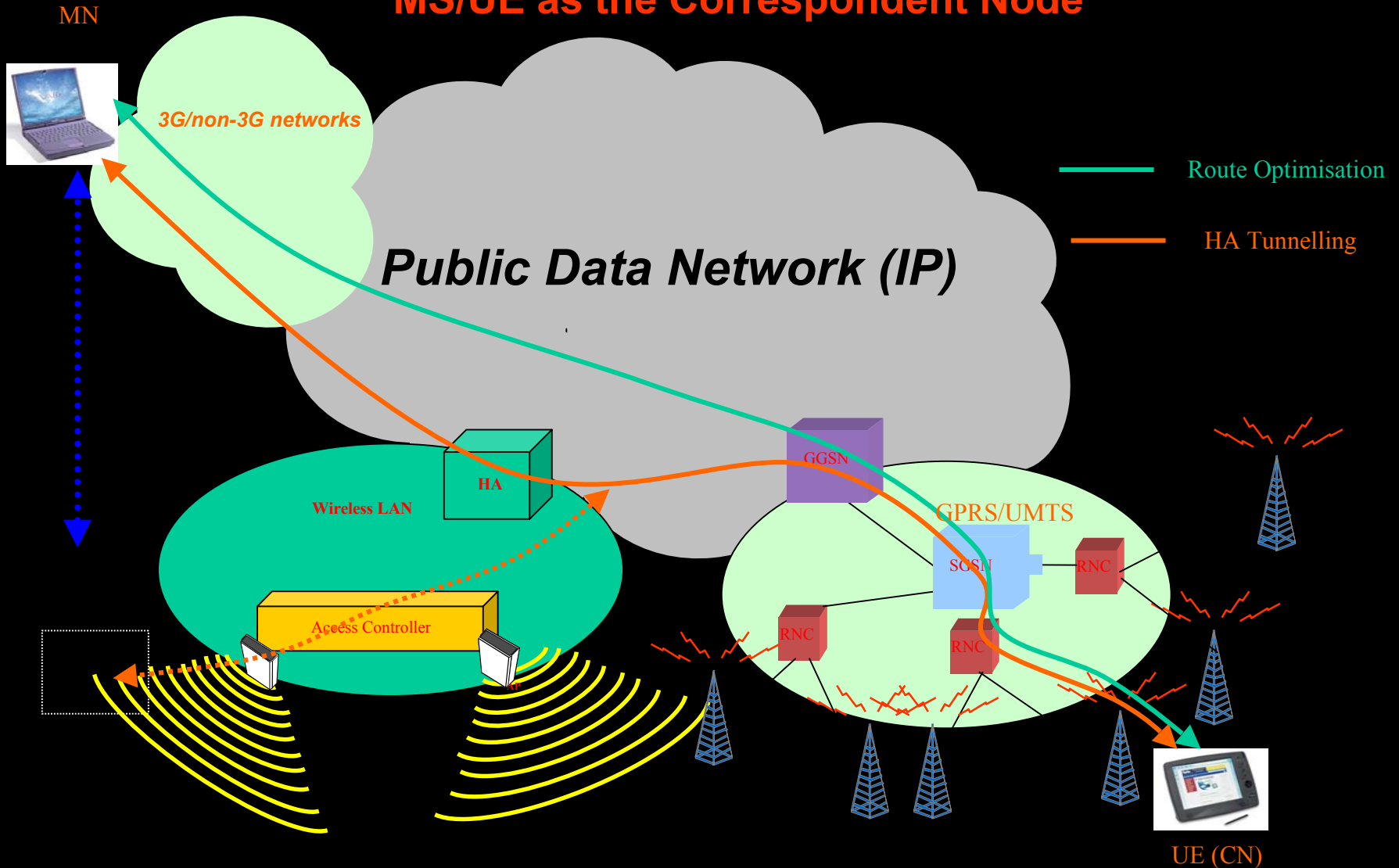
Network Service Defined Packet Filtering

- Service-based Local Policy Control (SBLP) information via Go (TS 23.207 & TS 29.207)

- Destination IP address;
- Destination port number;
- Transport Protocol id;
- Media direction information;
- Direction of the source (originating or terminating side);
- Indication of the group that the media component belongs to;
Editor's note: The format of this group indication in SIP/SDP is subject to CN1's decision.
- Media type information;
- Bandwidth parameter;
- Indication of forking/non-forking.

Application Scenarios of IP Mobility in 3G

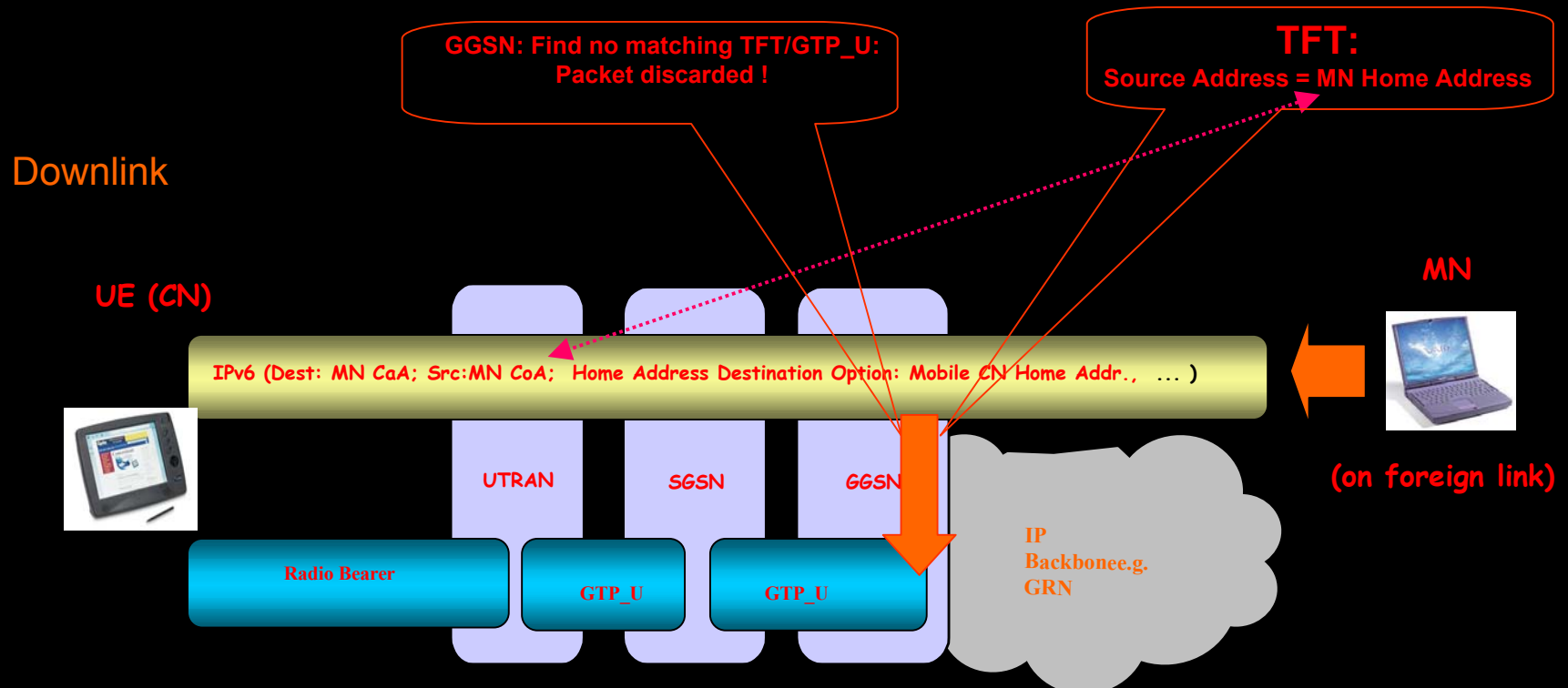
MS/UE as the Correspondent Node



Problem Statement I: TFT

MS/UE as the CN with Route Optimisation

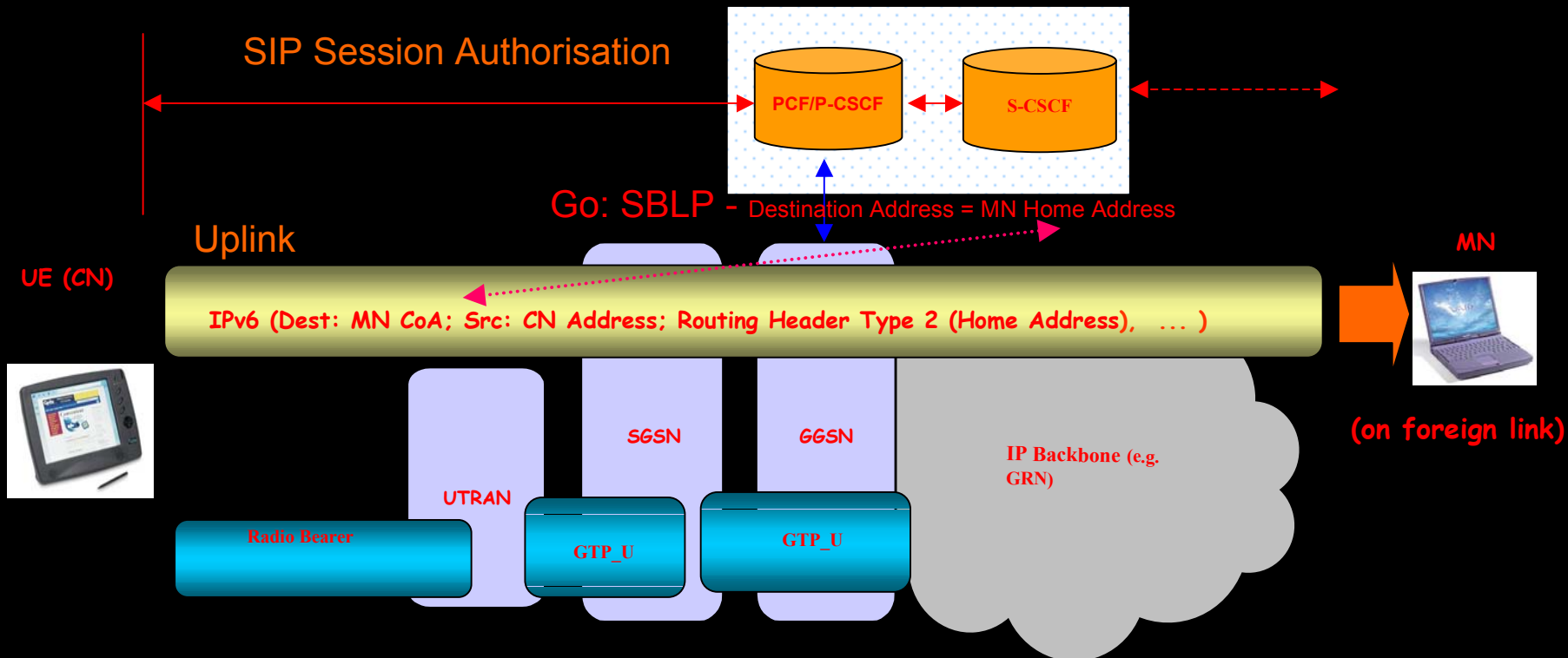
- TFT based Filtering: Source Address being the CN Address
- Incoming Traffic Source Address: MN Care-of Address



Problem Statement II: IMS SBLP

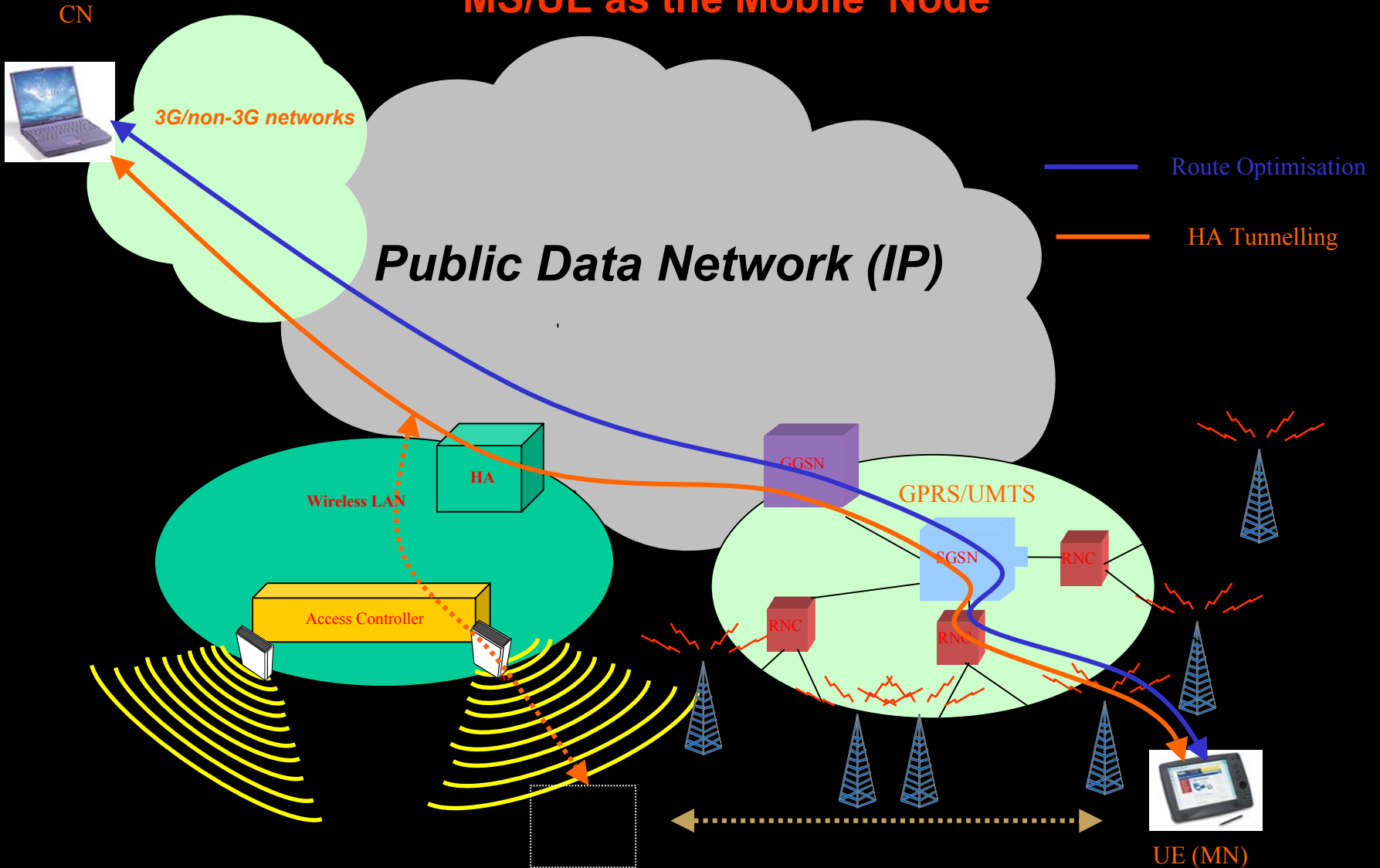
MS/UE as the CN with Route Optimisation

- SBLP Destination-based Filtering: MN Home Address
- MN in a Visited Network with MIPv6 Route Optimisation: MN Care-of Address



Application Scenarios of IP Mobility in 3G

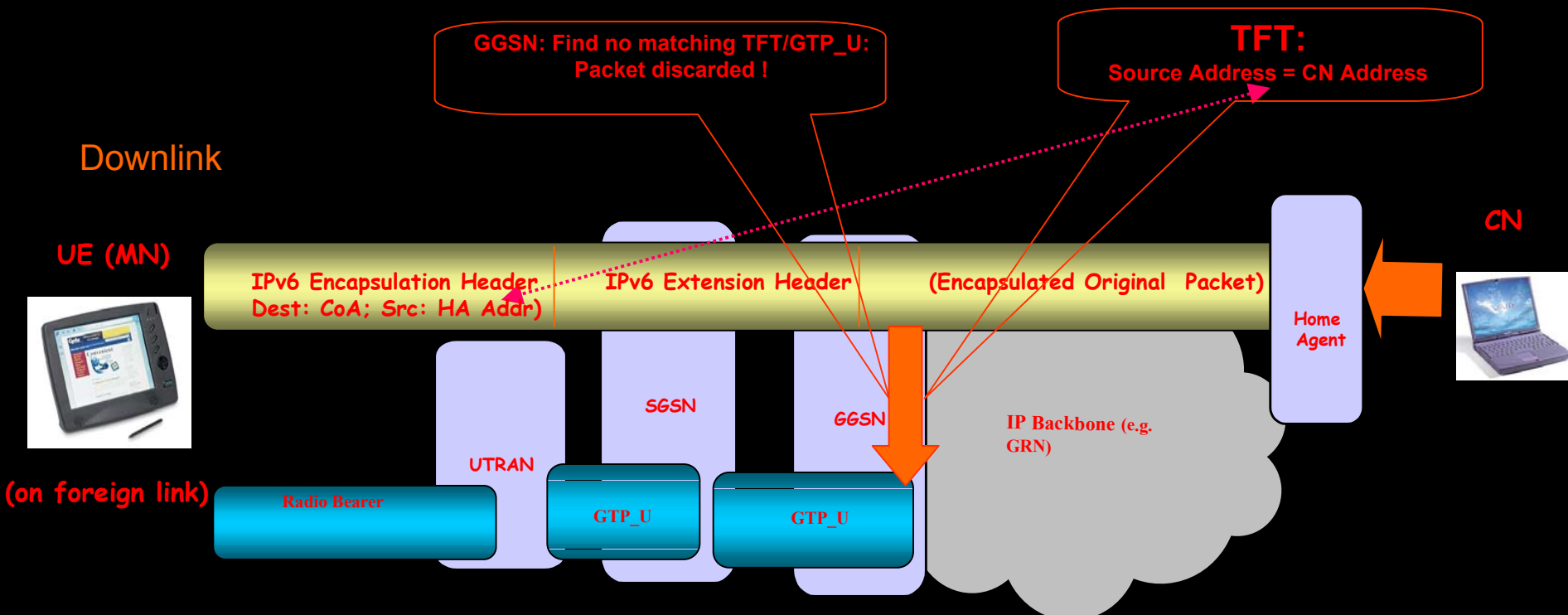
MS/UE as the Mobile Node



Problem Statement III: TFT

MS/UE as the MN with HA Tunnelling

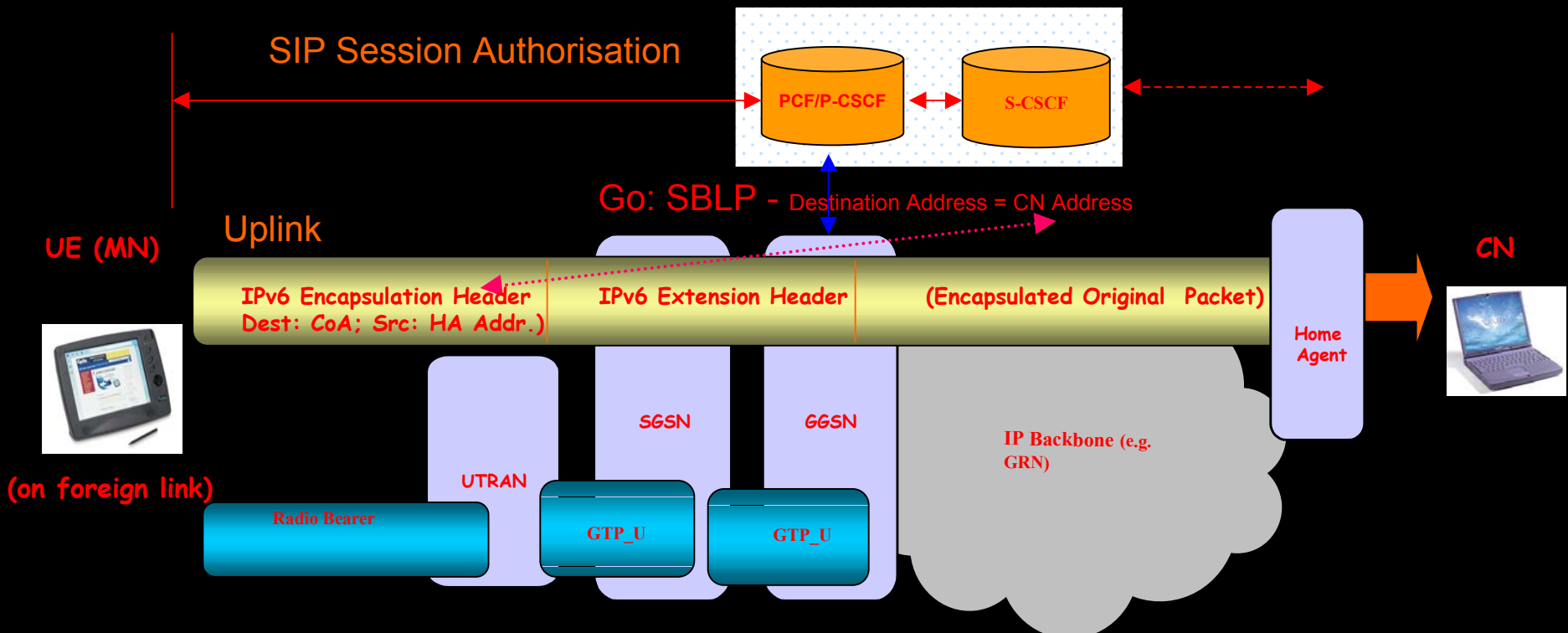
- TFT based Filtering: Source Address being the CN Address
- Incoming packets Tunnelled through HA: Source Address being the HA Address.



Problem Statement IV: IMS SBLP

MS/UE as the MN with HA Tunnelling

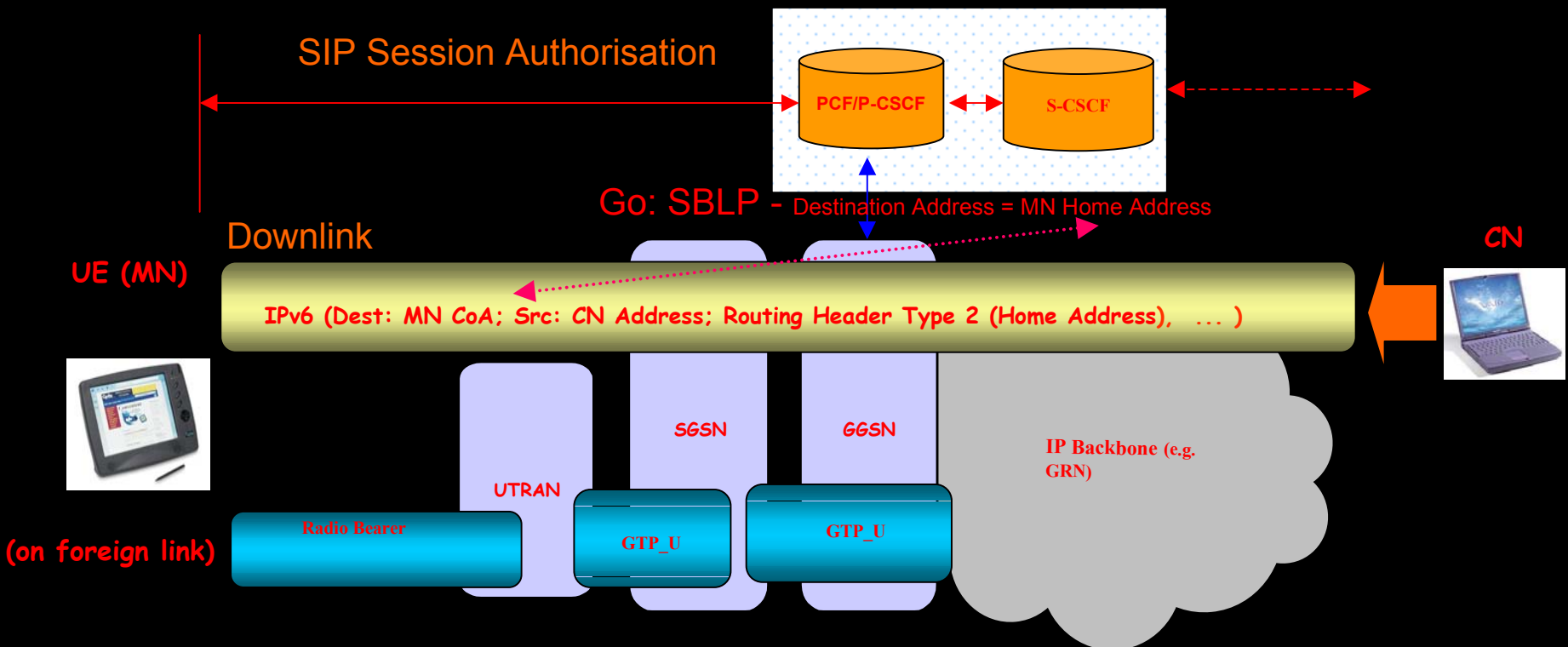
- SBLP Destination-based Filtering: CN Address
- MN in a Visited Network with Reverse Tunnelling: HA Address



Problem Statement V: IMS SBLP

MS/UE as the MN with Route Optimisation

- SBLP Destination-based Filtering: UE Home Address
- MN in a Visited Network with MIPv6 Route Optimisation: UE Care-of Address



Summary

- Similar problems may exist in non-3GPP networks/systems
e.g. Mobile IPv6 interworking with FW.
- As individual submission, target for an Information RFC

Thank You !