

Discussion on Flexible Mobile Service steering for R14

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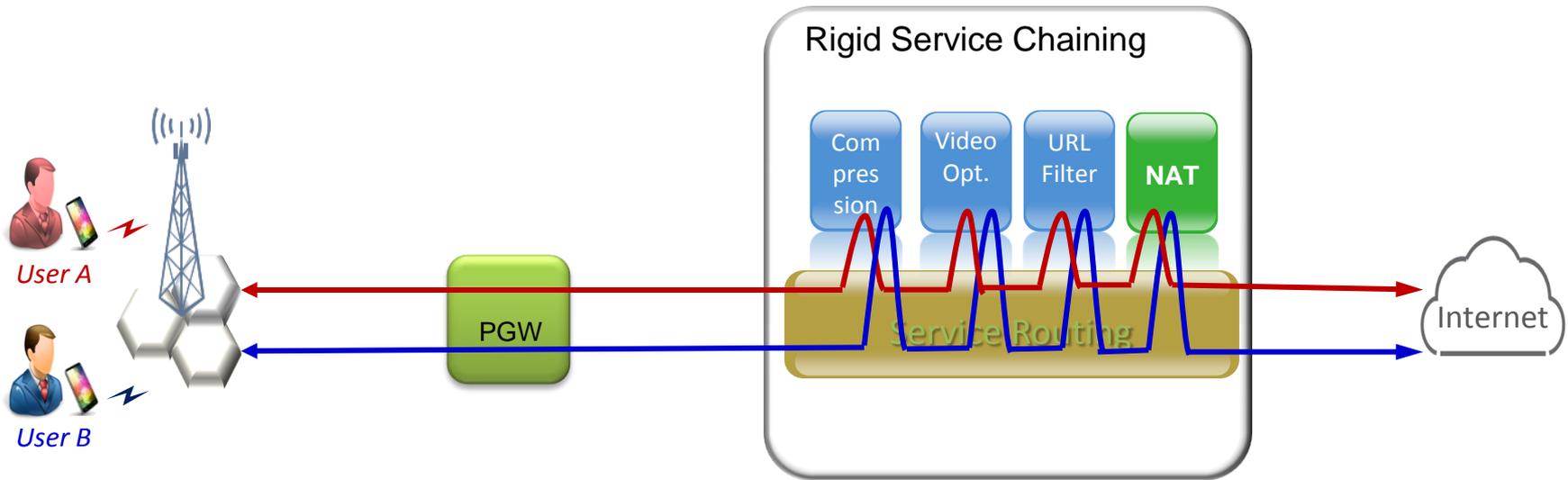
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- The current status of service chaining
- Candidate scenario and issues
- Proposal for R14 work item

Current Service chaining Status



FMSS in R13 has the following conclusion:

- The 3GPP Core Network shall be able to define and modify traffic steering policies that are used to steer traffic in (S)Gi-LAN e.g. to improve e.g. the user's QoE, apply the bandwidth limitation and provide valued added services based on the 3GPP related information.
- Gi-LAN network and 3GPP network belong to the same operators.

Candidate Scenario

- Roaming
- Considering whether introducing third party
- Charging issue based on VAS traffic amount
- Service chain status awareness and update
- Distributed Gi-LAN
- Considering whether the service enabler need more additional information to optimize the traffic

Case1: Roaming

Current status:

- In case of roaming, the HPLMN shall be able to apply traffic steering policies for home routed traffic.

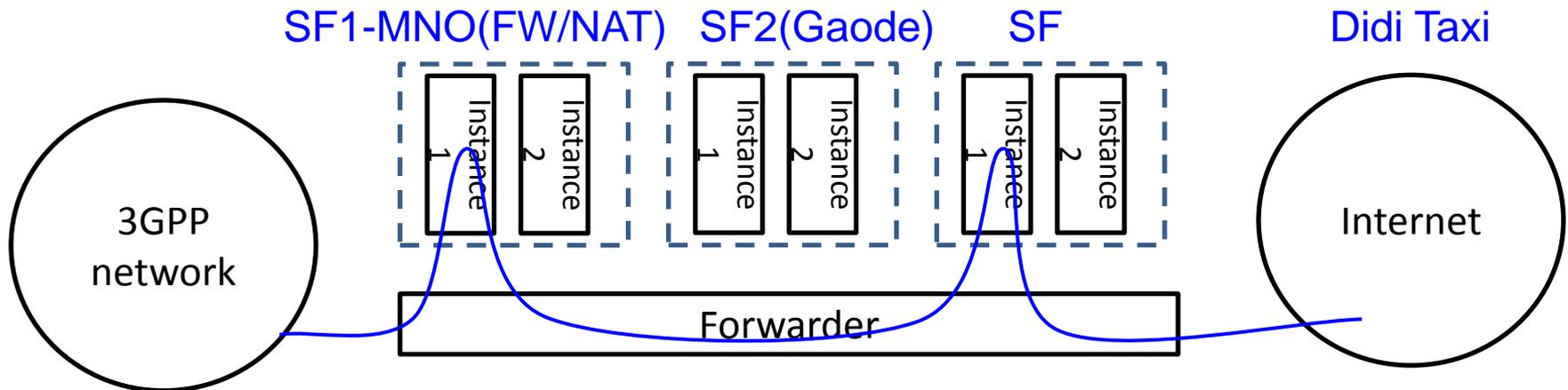
Problem statement:

- Traffic steering policies for visited routed traffic is not specified.

Case2: Considering whether introducing third party

Service Function (SF) belong to 3rd party.

- Case2a: OTT provider A may set up their own SF (e.g. video optimization) in the Gi-LAN system. The potential backhaul capacity expansion between the MNO and OTT provider can be avoided and the user experience will be enhanced.
- Case2b: For some specific service functions (e.g. voice recognition, image processing), which the operators are not familiar and need to reduce the time to market. The operators don't need to set up all kind's of SFs by themselves the 3rd party SF can be deployed in the service chain, and operators can charge based on data traffic, event etc. The operators can increase the revenue without be experts in many area.
- Case2c: If the 3rd parties deploy their SFs in operators service chain, their service abilities can be used by other OTT, e.g. Didi Taxi can use navigation service from Gaode, and FW/NAT from operator and other SFs if possible in only one service chain, without too much data transfer and contracts with other OTTs. Without the 3rd party SFs in the service chain, one OTT may needs to contract with many other OTTs for their valuable services.

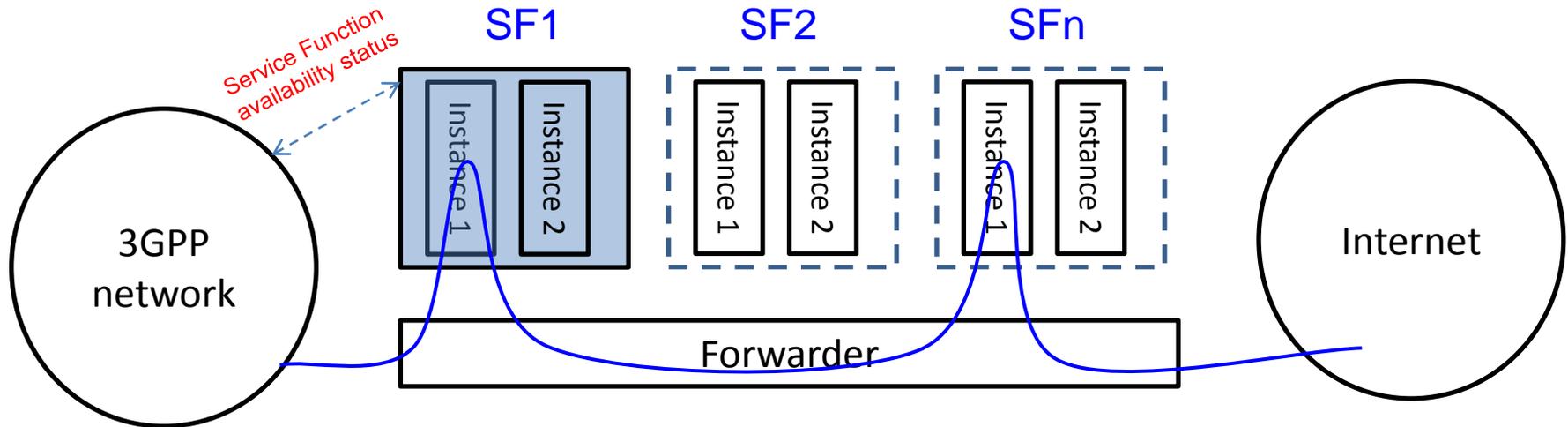


Case3: Charging

Problem statement:

- When the service function belonging to the 3rd party is applied, it is not clear how to settle the traffic amount passed between MNO and 3rd party SF.
- Which information from the 3rd party need to support charging settlement between 3GPP network and the 3rd party?

Case4: service chain status awareness



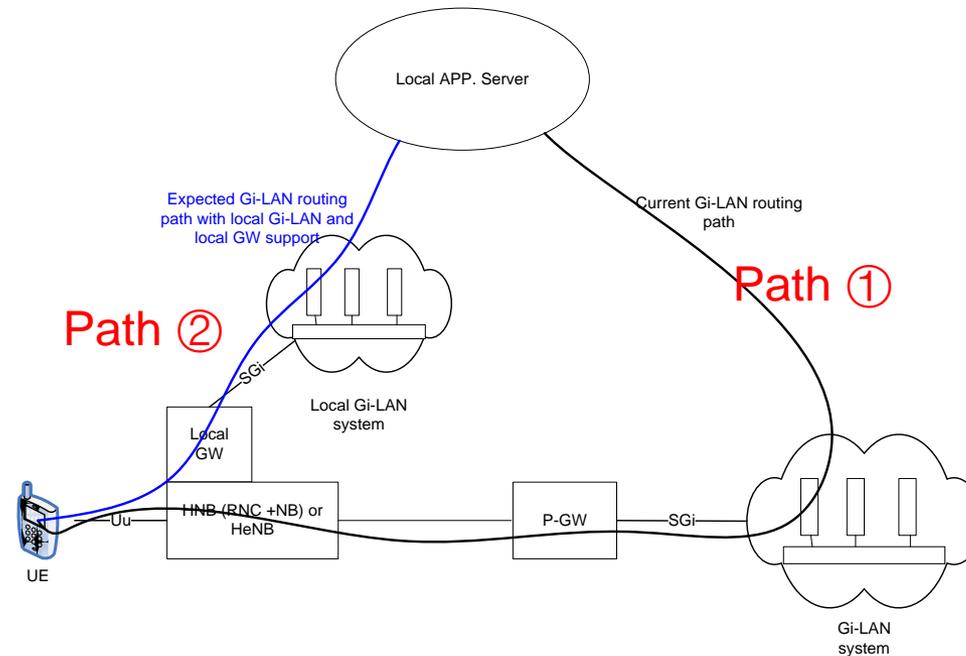
Current status:

- 3GPP network is responsible to define and update the traffic steering policy. The service function information is pre-configured in the 3GPP network.

Problem statement :

- The pre-configuration of service function information requires extra O&M work, it can not support new service function deployment in a real time manner. If 3GPP network can be aware of the availability information (e.g. what type of the SF1 is availability) of Gi-LAN, those issues can be addressed.
- Traffic steering policy is the begin for traffic route, what is the policy action result? And is there any need to adjust the policy?

Case5: Distributed Gi-LAN



Current status:

- Considering the UE accessing a local web server closing to the UE, when the Gi-LAN service is applied, IP traffic is routed to Gi-LAN network located outside of core network first. After the Gi-LAN processing is done, the IP traffic is routed to the local web server again via internet. The routing path with current Gi-LAN is showed as path ① in the figure.

Problem statement:

- Gi-LAN network locating outside of core network causes extra ground transportation delay and requires more backhaul bandwidth, this delay may degrade the user's experience. The centralized Gi-LAN processing also require the high capacity and performance Gi-LAN system. It will be desire to support Gi-LAN service with better user's experience, less backhaul BW and low cost Gi-LAN system. Considering the local GW feature has been supported by 3GPP, the desired IP routing path with Gi-LAN is showed as path ② in the figure

Case 6: Considering whether the service enabler need more additional information to optimize the traffic

Problem statement:

- The 3GPP network defines the traffic steering policy to impact user traffic routed in S/Gi-LAN. But the service enablers in the S/Gi-LAN do not know any information which is used to define the steering policy, e.g. user profile, to optimize the traffic when the user traffic is routed through them

Conclusion: propose to a new WID

Propose:

- The new WID for R14 FMSS is proposed.
- The new focus on the following scenarios:
 - Roaming for local breakout traffic flow
 - Considering whether introducing third party
 - Charging issue based on VAS traffic amount
 - Service chain status awareness and update
 - Distributed Gi-LAN
 - Considering whether the service enabler need more additional information to optimize the traffic