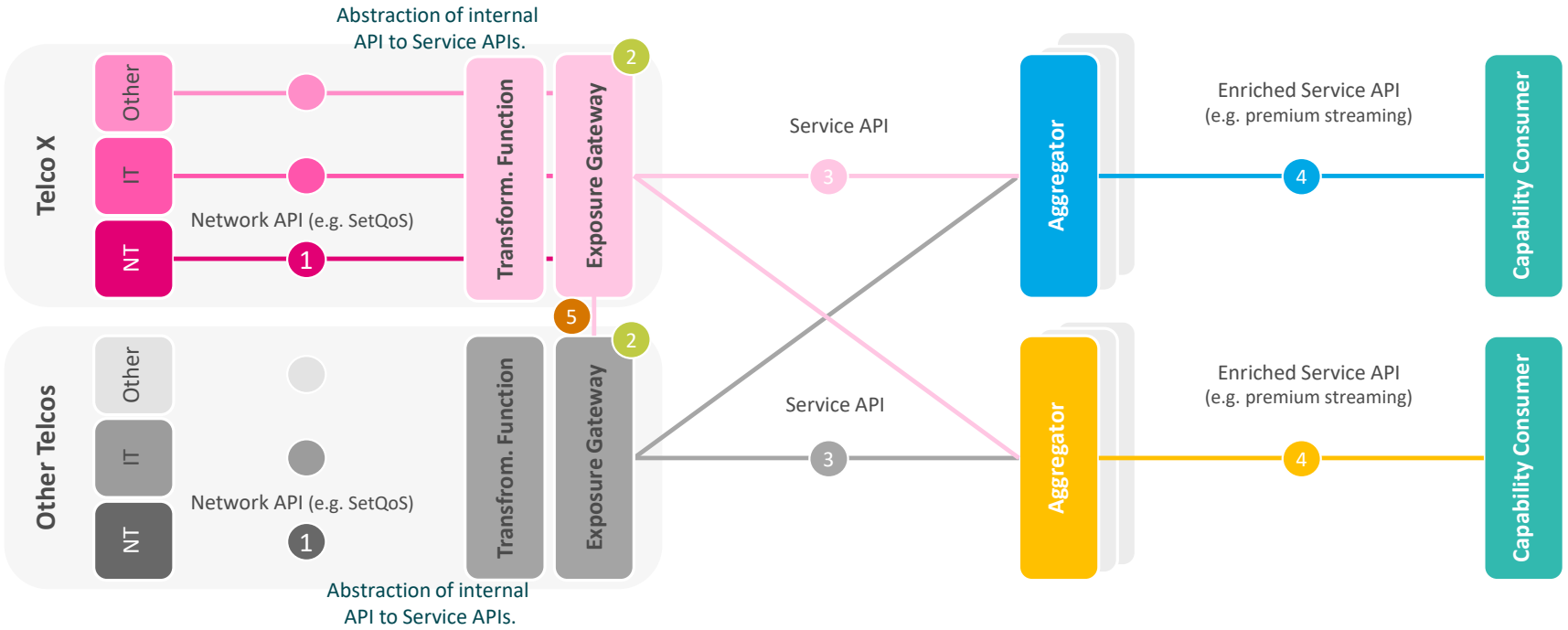
Quality on Demand

12. November 2021

LIFE IS FOR SHARING.

Blueprint technical architecture: Service APIs



1 **Capabilities**
Exposable via Network APIs
e.g. slicing, positioning, managed QoS, IDM etc.

2 **Exposure**
Abstraction of internal API to Service APIs. Common means of access across all operators

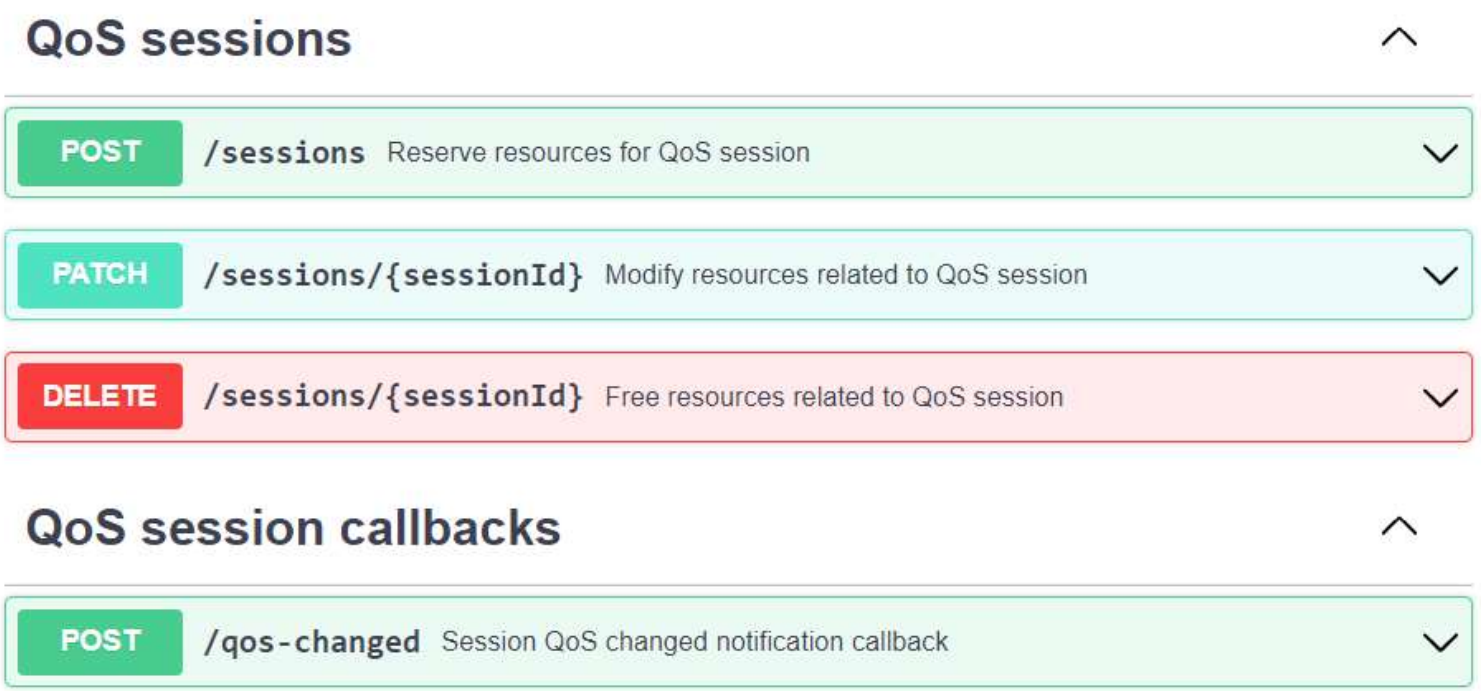
3 **Service APIs**
Service APIs incl. also access control, billing, cross-operator federation etc.

4 **Technical Aggregation (optional)**
Enrichment of Service APIs
e.g. cloud or platform providers etc.

5 **Interoperability**
e.g. API roaming, etc.

Service APIs

Old version

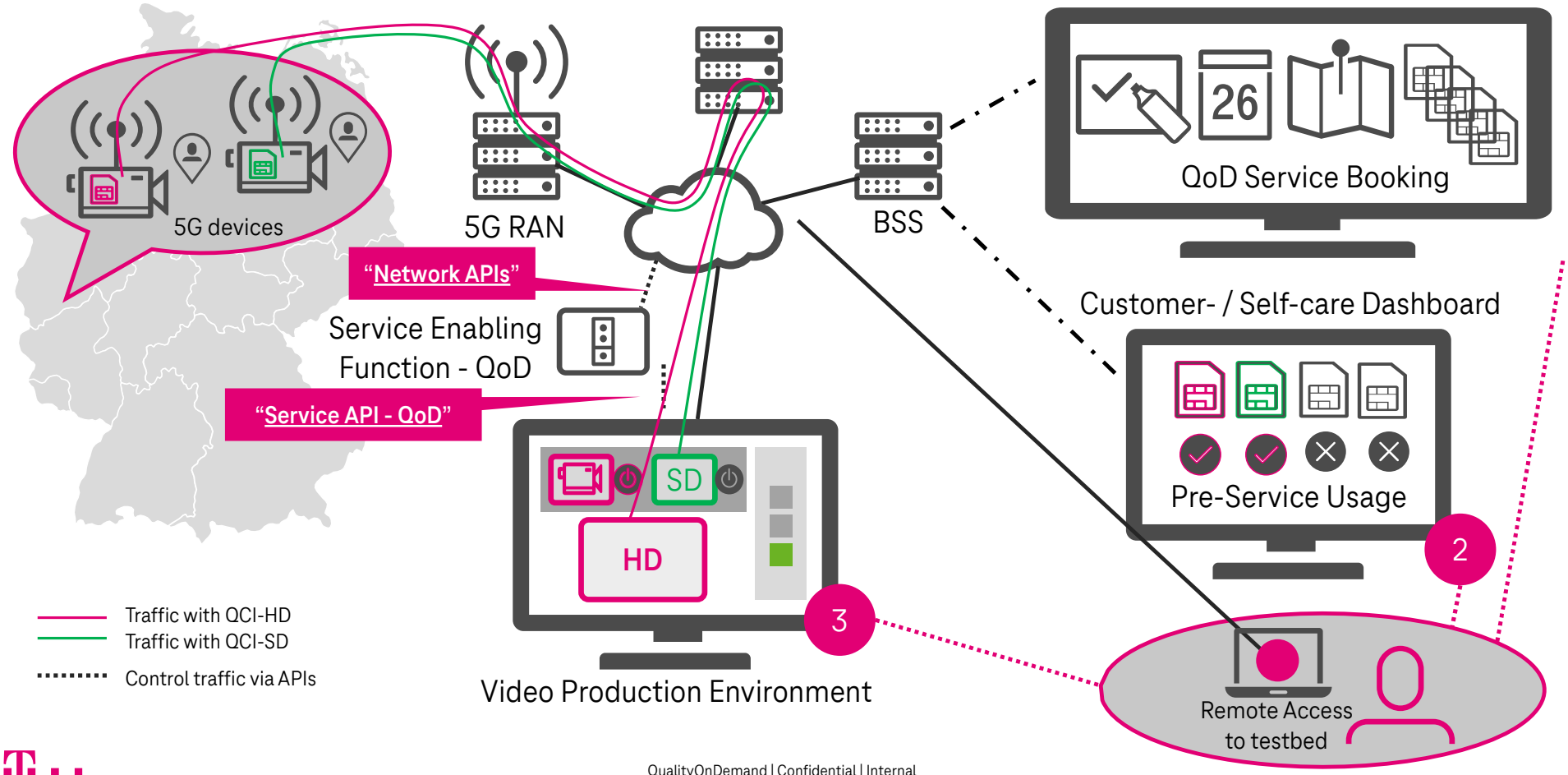


Service APIs

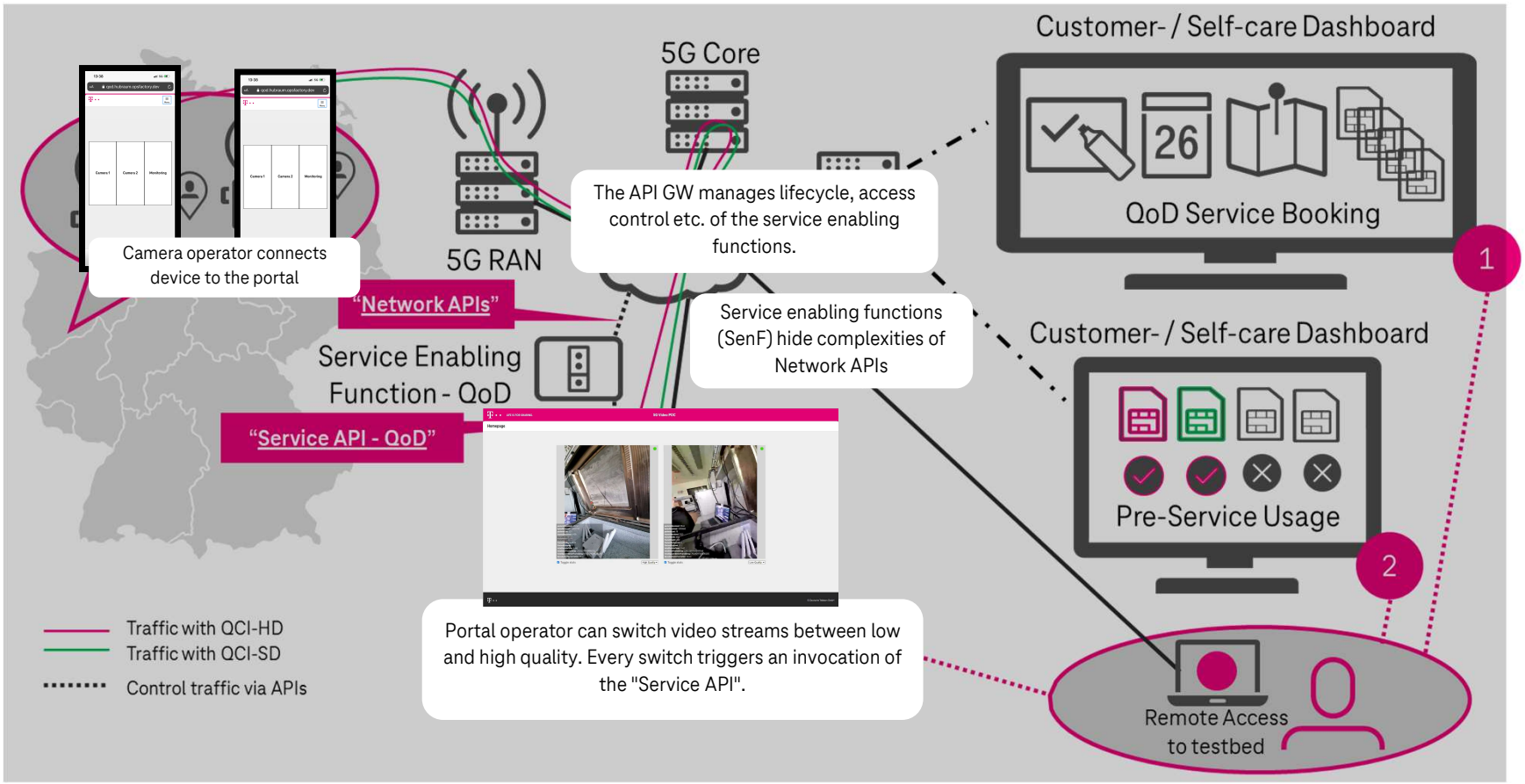
Example value


```
"ueAddr": "192.168.0.1",
"asAddr": "192.168.0.1",
"uePort": 65535,
"asPort": 65535,
"protocolIn": "TCP",
"protocolOut": "TCP",
"qos": "THROUGHPUT_S",
"notificationUrl": "https://application-server.com/notifications"
```

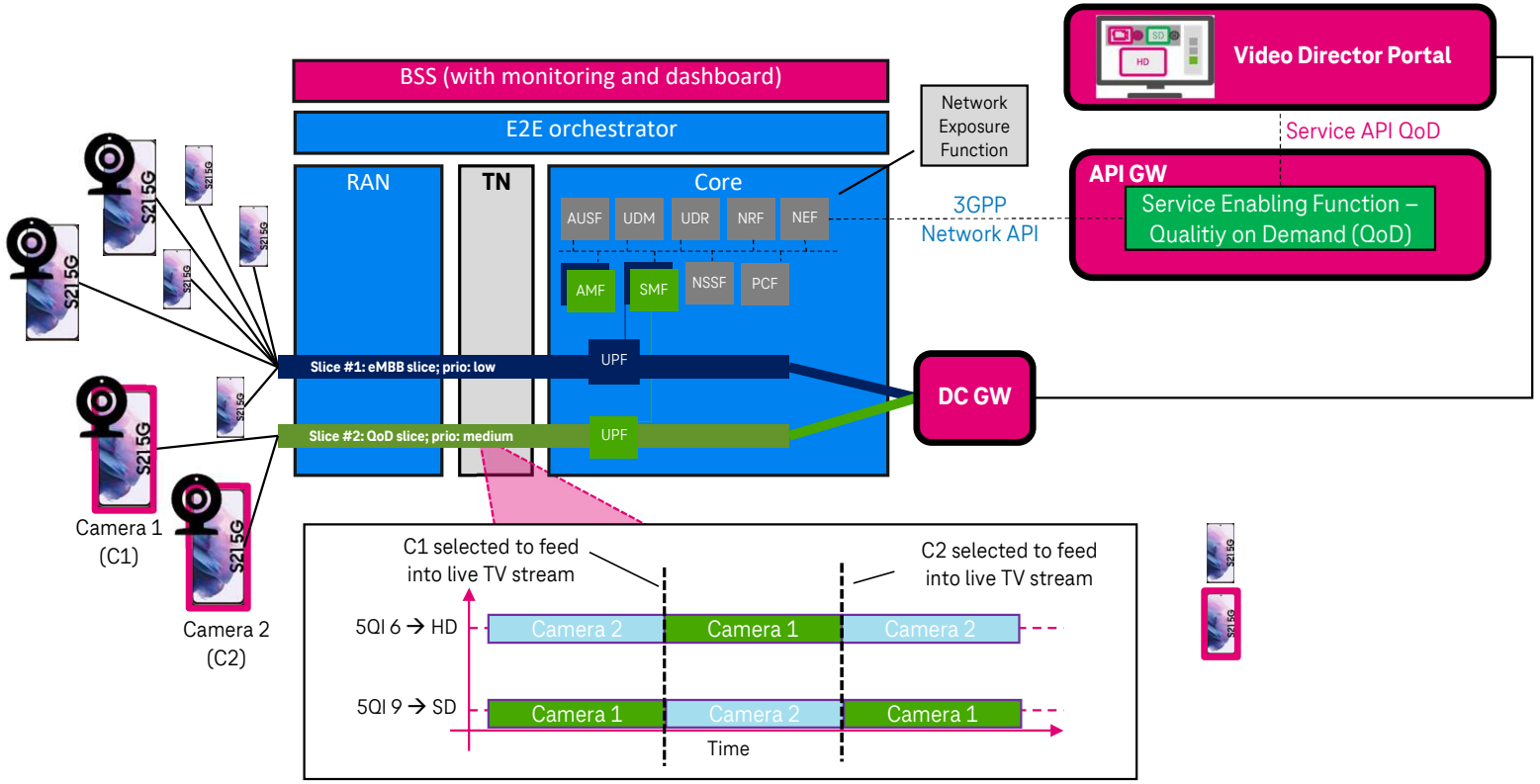
Quality on Demand – Target Picture



Quality on Demand – Target Picture

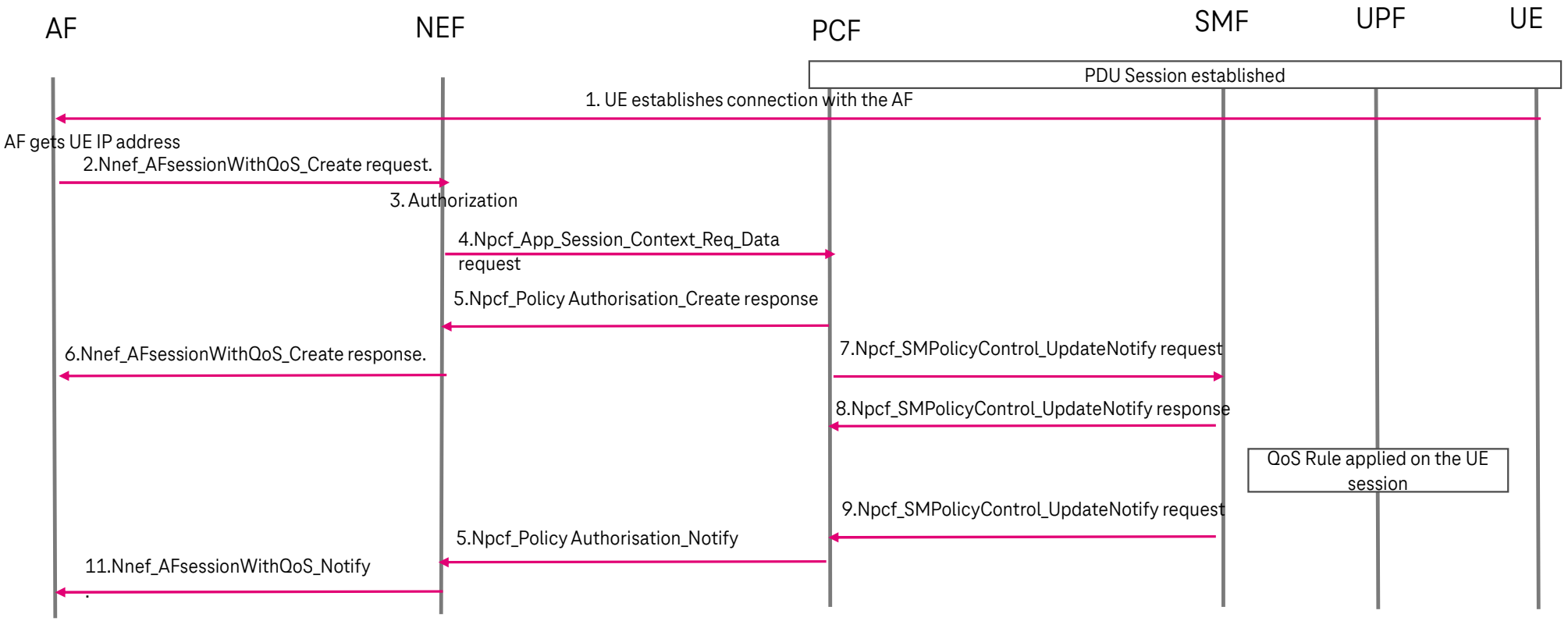


Video production PoC architecture.



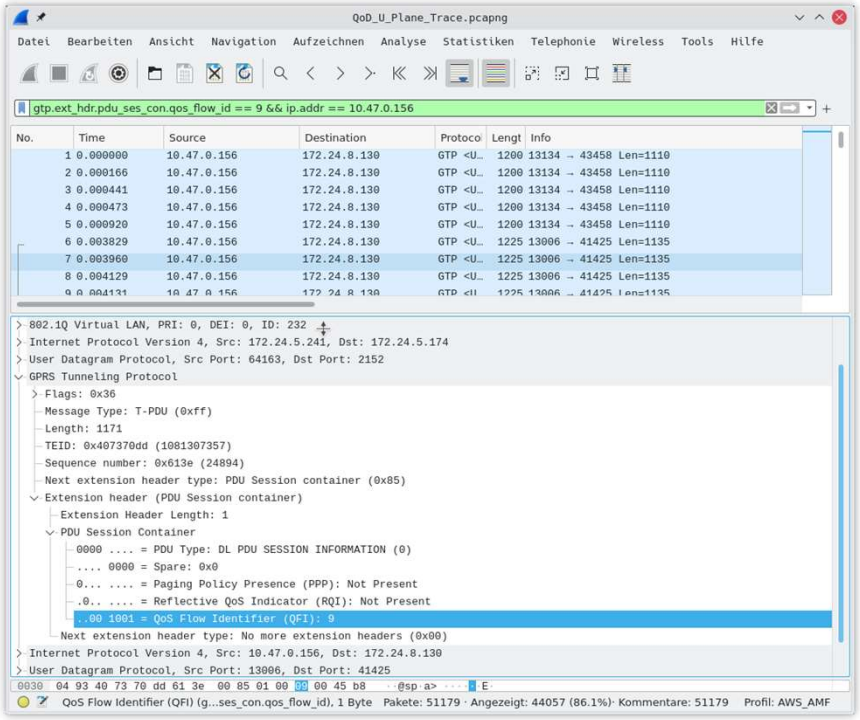
Call Flow - AF Session with Required QoS

Reference:
3GPP 23.502
3GPP 29.122
3GPP 29.214
3GPP 29.521

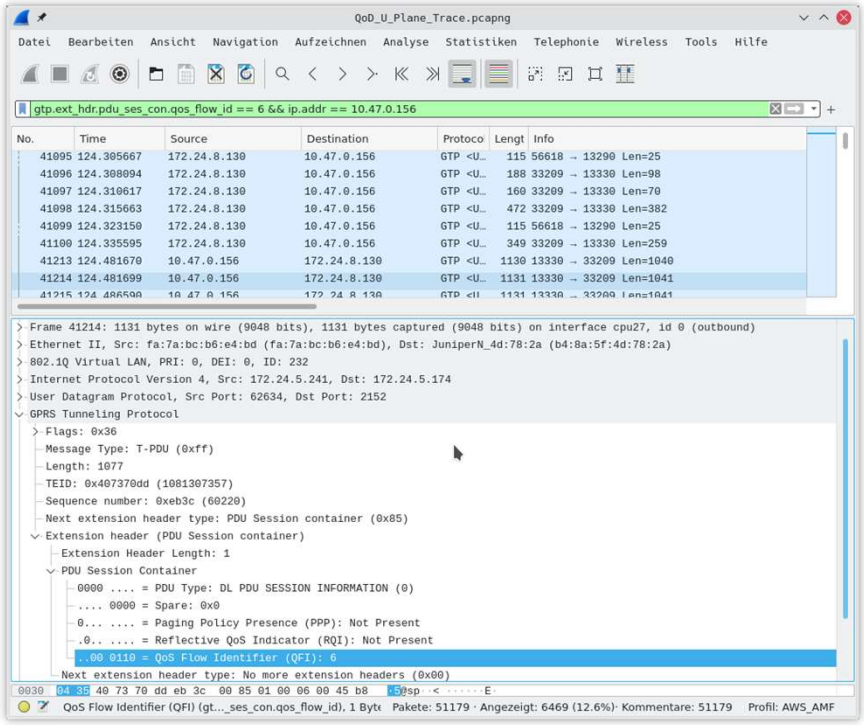


Quality on Demand – Result (Trace at the UPF)

before switching: 5QI = 9 (priority level 80)



after switching: 5QI = 6 (priority level 60)



Stable Latency API

Story	Prio
As a Developer I want an API which offers me a stable latency then the best effort or other QoD-APIs, so i can optimize my dataflow for perfect interaction time	1
As a Developer i want to prioritize an App-Flow, so i can optimize the latency critical flows and can save money by using it only if it is necessary (is in)	1
As a Developer i want to switch between a bandwidth limit and an unlimited function, so i can decide if it is necessary to spend more money for bandwidth.	2
As a Developer i want to book the API for a defined time frame, so i can decide by myself how long i need the QoD. (On/Off Switch)	1
As a Product Manager i want to measure data, so i can decide later which package are ideally for billing. (Used Bandwidth, Calls, Time)	1
As a Product Manager i want to measure customer data, so i can decide later which package are ideally for billing. (Appname, User-IP, Customername, Customer ID more insights)	3
As a Developer i want to get insight about the use QoD-Quality in comparison to Bes-Effort afterwards, to see the results of my spending.	3

Stable Bandwidth/Throughput API

Story	Prio
As a developer i want an API which offers me a stale throughput, so i can fullfill the needs of my customers with a stable connection to my Service	1
As a Developer i want to decide if I prioritize an App-Flow or the whole App, so i can decide if I want all Flows in my App or only the ways which are important for the customer satisfaction.	1
As a developer i want to choose between different Package of throughput classes, so i can decide what class is fitting my needs and i can svae money by using a smaller class. (S,M,L,XL)	1
As a Developer i want to book the API for a defined time frame, so i can decide by myself how long i need the QoD. (On/Off Switch)	1
As a Product Manager i want to measure data, so i can decide later which package are ideally for billing. (Used Bandwidth, Calls, Time)	1
As a Product Manager i want to measure customer data, so i can decide later which package are ideally for billing. (Appname, User-IP, Customername, Customer ID more insights)	3
As a Developer i want to get insight about the use QoD-Quality in comparison to Bes-Effort afterwards, to see the results of my spending.	3

Thank you