

GSMA TSGNS

Orange proposal on API requirements

Current status on API requirements in TS.62

Requirements on OS to expose API for applications to provide Traffic Descriptors (TDs) to be matched against have been generating a lot of debate in TSGNS workgroup, with opposing views

Relying on applications to provide TDs also adds complexity in terms of additional security requirements on OS (or Modem) to verify the TDs passed by the application

CR1011 introduces the definition of two categories of TDs, which hints at a different level of requirements on API according to the type of TD

- **Endogenous TDs: they are inherent to the application (e.g. AppID) and don't need to be passed by the application via an API**
- **Exogenous TDs: they can be given to the application from outside (e.g. DNN, Connection Capability) and need to be provided explicitly to OS or Modem**

The majority of TDs defined in 3GPP TS 24.526 are Endogenous TDs and can be inferred by OS

Endogenous TD

“Traffic descriptors that are inherent to the application (e.g. AppID)”

Exogenous TD

“Traffic descriptors that can be given to the application from outside (e.g. DNN, Connection Capability)”

TS 24.526 16.7.0 - Traffic descriptor component type identifier

Match-all type

OS Id + OS App Id type

IPv4 remote address type

IPv6 remote address/prefix length type

Protocol identifier/next header type

Single remote port type

Remote port range type

IP 3 tuple type

Security parameter index type

Type of service/traffic class type (as per IPv6 header)

Flow label type

Destination MAC address type

802.1Q C-TAG VID type

802.1Q S-TAG VID type

802.1Q S-TAG 802.1Q C-TAG PCP/DEI type

PCP/DEI type

Ethertype type

DNN type

Connection capabilities type

Destination FQDN

Regular expression

OS App Id type

Proposal from Orange

Limit mandatory API requirements on OS to exogenous TDs

Precise requirements on applicability of TDs according to UE type

Orange standpoint

- Applications providing TDs to be matched against should be limited to exogenous TDs
- Most application information used to match with TDs are implicit to the application traffic
OS or Modem can apply URSP rules pushed by network by inferring parameters from app traffic

Proposal from Orange

Limit mandatory API requirements on OS to exogenous TDs

Precise requirements on applicability of TDs according to UE type

Proposal from Orange

■ API requirements, built upon definitions introduced by CR1011

- Common to Endogenous and Exogenous TDs

“The UE SHALL implement the URSP association mechanism as defined in 3GPP specification [4], at the OS or Modem level, based on the URSP rules pushed by network.”

- Exogenous TDs

“The OS SHALL expose an API or APIs for the applications to include any exogenous traffic descriptors when requesting network connections.”

“The application MAY include exogenous traffic descriptors in its network connection request.”

- Endogenous TDs

No specific additional requirement on OS to expose APIs

■ API requirements for Traffic categories

- “The API exposed by the OS for applications to select a traffic category SHALL include the list of traffic categories specified by GSMA NG.135 3.1.3 as possible values”

■ Applicability of TDs

- Precise which TDs are applicable according to UE type

For example, TDs based on VLAN tags are not relevant to some types of UE

Compatibility of Orange proposal with 3GPP TS 24.526

Orange proposal: Endogenous TDs not provided by applications

- **3GPP TS 24.526 v16.8.0**
“... the UE shall evaluate the URSP rules, except the default URSP rule, with a traffic descriptor matching the application information in increasing order of their precedence values, if any.”
- **TS 24.526 doesn't mandate “application information” to be provided by the application itself, it should be understood as “information about the application”**