

# 3GPP SA5 Standardization of AoC

Open issues identified by Orange and Deutsche Telekom

Proposals on AoC user profiles in HSS

Proposals on AoC Tariff details

Proposals on AoC terminology

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# Open Issues

Key open issues identified by Orange and Deutsche Telekom (see also S5-081407)

- Finish discussions on terminology (CDP, CGP, TDF, TGF, TSF)
  - Start works with functional needs for AoC delivery
  - Topology of the AoC functions
- Triggering of the AoC service : HSS Profile? Service Profile ?
- Involvement of the IMS GWF
  - Need to have the session + event dimensions
- Involvement of the OCS (Rating info, Management of the RTTI)
  - OCS or standalone RF? Interface issues
- RTTI: mapping on Ro (AVPs)
- Finish AoC call flows
- Verify AoC user profiles in HSS and potential Sh modifications
- Verify AoC tariff details and potential Ro/OCS modifications



# AoC user profiles in HSS

Deutsche Telekom proposes to consider at least the following parameters (minimum requirements):

- AoC-related user groups (e.g. VoIP consumer, VoIP public phone, Business VoIP, public payphone, mobile terminal)
- AoC service obligatory type (AoCI or AoCC)
- AoC service type (any combination of AoC-S, AoC-D, and AoC-E),
- AoC configuration and preferences
- addresses of AoC-related charging functions (e.g. IP address of connected OCS)



# AoC-related Tariff details

Deutsche Telekom proposes to consider at least the following Tariff details for AoC:

- Current Tariff
- Tariff switchover time
- Next Tariff
- Tariff Zone (e.g. local, national, EU-internal, international call outside EU)
- Indicator showing if tariff is valid on weekday, weekend, public holiday, or at any time
- Indicator if tariff is rewritable by RTTI:
  - If a current tariff is NOT rewritable, the AoC function MUST reject the RTTI and continue with the ongoing tariff.
  - But if a tariff is marked as rewritable, the AoC function must process the incoming RTTI and apply the new tariff instead of the old

→ The AoC information model is currently being discussed in SA5.

→ Comparison with RTTI- and OCS/Ro Tariff details needed.



# AoC Terminology (1/4)

## Use of CDP and CGP in legacy PSTN/ISDN networks

- In PSTN/ISDN, the terms "Charge Generation point" and "Charge Determination point" are used according to ETSI ES 201 296 (ISUP Signalling aspects of charging).
- The CGP can provide both charging data and AoC information.

## TISPAN Release 2

- In TISPAN, when TS 183058 on RTTI was created, the terms CDP and CGP were re-used.
- TS 183058 clearly points out that the RTTI information is made for AoC and not for actual charging. I.e. the retrieved RTTI should only be transferred into AoC and not be used in offline charging CDRs because of security constraints.



# AoC Terminology (2/4)

## Current discussions in SA5

- During the AoC standardization in 3GPP SA5, the terms CDP and CGP were seen as critical, e.g. because the term "point" does not fit into the 3GPP philosophy where functions are designed rather than points.
- Nokia Siemens has proposed the new functions Tariff Determination Function (TDF), Tariff Supply function (TSF) and Tariff Generation Function (TGF). Details see Draft 3GPP TS 32.280 V0.4.1, chapter 4.3.2.
- The proposed terms TDF, TSF and TGF were not yet agreed in SA5-SWG-CH.



# AoC Terminology (3/4)

## Evaluation of SA5 discussions

- Looking closer at the NSN figures, the TDF is always identical with the charging functions (OCS or OFCS) or located in external networks/external AS.
- For AoC, the TGF always equals the AoC function.
- In case tariff information received by RTTI was used for *charging* data as well, this would need to be done by the existing Charging Trigger Function (CTF).
- TSF is always identical with ACF and/or SIP-AS and/or IMS-GWF.

As a consequence, the proposed new functions TDF, TSF and TGF are always covered by existing 3GPP functions and/or functional entities.



# AoC Terminology (4/4): Proposals for TS 32280

## Alternative 1: Re-use of CDP and CGP or similar terms

- according to Orange proposal (S5-081405)

## Alternative 2: Don't use any of the terms CDP, CGP, TDF, TGF and TSF!

- If alternative 1 is not acceptable, NONE of the terms CDP, CGP, TDF, TGF and TSF shall be used in the AoC terminology!
- Instead of CGP, the term AoC function is used for AoC supplementary service.
- If RTTI was transferred into charging data as well, the “CGP” would equal the existing Charging Trigger Function (CTF).
- Instead of CDP, the source of tariffs can be mentioned directly (e.g. AoC-function, SIP-AS, OCS, OFCS, other network)

