**3GPP TSG-CT3 Meeting #121e C3-222175**

**E-Meeting, 6th – 12th April 2022**

**Source: Huawei**

**Title: Correction to notification of the time synchronization service capability**

**Spec: 29.565 1.2.0**

**Agenda item: 17.16**

**Document for: Decision**

**1. Introduction**

<Introduction part (optional)>

**2. Reason for Change**

The TSCTSF shall update the capability of the time synchronization service if necessary, e.g. upon PDU Session establishment or release. The information of the capability with each each instance of TimeSyncCapability data structure shall be clarified.

**3. Conclusions**

Make above clarifications.

**4. Proposal**

It is proposed to agree the following changes to 3GPP TS 29.565 1.2.0.

\* \* \* First Change \* \* \* \*

##### 5.2.2.4.2 Notification about the capability of time synchronization service

Figure 5.2.2.4.2-1 illustrates the notification about the capability of time synchronization service.



Figure 5.2.2.4.2-1: Notification about the capability of time synchronization service

The TSCTSF maintains the association between the AF session(s) and the Individual Time Synchronization Exposure Subscription resource as defined in clause 5.2.2.2.2 and detects the capability of time synchronization service (for a list of UEs, a group of UEs or any UE in a DNN and S-NSSAI), by composing the time synchronization capabilities for the DS-TT/UE(s) connected to the NW-TT based on the capability information received from the DS-TT(s) and NW-TT via the PCF. If the NF service consumer includes an Event Filter with one or more of the requested PTP instance type, requested transport protocol for PTP, or requested PTP Profile, the TSCTSF considers only the DS-TT(s) and NW-TT(s) with these capabilities as part of the time synchronization capability set that is reported to the NF service consumer. If necessary, when the list of AF session(s) associated to the Individual Time Synchronization Exposure Subscription resource changes, e.g. upon PDU Session establishment or termination, the TSCTSF may notify the update of the capability of time synchronization service for the DS-TT/UE(s) connected to the NW-TT(s). In order to send the capability of time synchronization service to the NF service consumer, the TSCTSF shall send an HTTP POST request with "{subsNotifUri}", as previously provided by the NF service consumer within the corresponding subscription, as request URI and TimeSyncExposureSubsNotif data structure as request body that shall include:

- Notification correlation ID provided by the NF service consumer during the subscription within "subsNotifId" attribute; and

- information about the observed event(s) within the "eventNotifs" attribute that shall contain for each observed event an "SubsEventNotification" data structure that shall include:

1. the detected event within the "event" attribute;

2. when the event is "AVAILABILITY\_FOR\_TIME\_SYNC\_SERVICE", the capabilities of time synchronization service for one or more user plane nodes with the "timeSyncCapas" attribute. Within each instance of TimeSyncCapability data structure, the TSCTSF shall include the identifier of the applicable NW-TT within the "upNodeId" attribute, the "gmCapables" attribute set to true if the user plane node supports acting as a gPTP and/or PTP grandmaster, the supported 5G clock quality within the "asTimeRes" attribute if applicable and the PTP capabilities for each UE within the "ptpCapForUes" attribute.

Upon the reception of an HTTP POST, the NF service consumer shall send an HTTP "204 No Content" response for a successful processing.

If the HTTP POST request from the TSCTSF is not accepted, the NF service consumer shall indicate in the response to HTTP POST request the cause for the rejection as specified in clause 6.1.7.

If the NF service consumer determines the received HTTP POST request needs to be redirected, the NF service consumer shall send an HTTP redirect response as specified in clause 6.10.9 of 3GPP TS 29.500 [4].

\* \* \* End of Changes \* \* \* \*