**3GPP TSG-SA WG6 Meeting #40-e S6-20xxxx**

**e-meeting, 16th – 24th November 2020 (revision of S6-202196, 2318)**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **23.286** | **CR** | **0034** | **rev** | **2** | **Current version:** | **16.4.0** |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network | **X** |

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|  | | | | | | | | | | |
| ***Title:*** | Network monitoring procedure enhancement | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei, Hisilicon | | | | | | | | | |
| ***Source to TSG:*** | S6 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eV2XAPP | | | | |  | ***Date:*** | | | 2020-11-08 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-17 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) Rel-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Solution#16 in TR 23.764 enhances the network monitoring procedure with 5G QoS Sustainability features.  Proposed to include the enhancements in TS 23.286. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | 1) Update the network monitoring procedure to include the 5G QoS Sustainability features.  2) Update network monitoring information subscription request to include more filters for the report | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Network monitoring considering 5GS will not be enabled. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 9.7.2.1, 9.7.2.3, 9.7.2.4 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **N** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **N** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **N** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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

#### 9.7.2.1 Network monitoring information subscription request

Table 9.7.2.1-1 describes the information flow network monitoring information subscription request from the VAE client to the VAE server.

Table 9.7.2.1-1: Network monitoring information subscription request

|  |  |  |
| --- | --- | --- |
| Information element | Status | Description |
| V2X UE ID | M | Identity of the V2X UE subscribing for the network monitoring information |
| Subscription event | M | Identify one or multiple network monitoring events (e.g. uplink degradation, congestion, overload, coverage) |
| Triggering criteria | M | Identify when the VAE server will send the monitoring reports to the VAE client. |
| Area information | O | Identify the area where the event is subscribed. |
| V2X service ID(s) | O | Identify the V2X service which is related with the event. |

\* \* \* Next Change \* \* \* \*

#### 9.7.2.3 Network monitoring information notification

Table 9.7.2.3-1 describes the information flow network monitoring information notification from the VAE server to the VAE client.

Table 9.7.2.3-1: Network monitoring information notification

|  |  |  |
| --- | --- | --- |
| Information element | Status | Description |
| V2X UE ID | M | Identity of the subscribed V2X UE |
| Network monitoring information | M | This includes information on network status for the triggering criteria, and may include the following parameters:  - Uplink quality level  - Congestion level  - Overload level  - Geographical Area (cell area or TA for which the monitoring applies)  - Time Validity (the period for which the monitoring applies)  - Coverage level and bearer level events (optionally, for MBMS)  - QoS Sustainability |

\* \* \* Next Change \* \* \* \*

#### 9.7.4.2 Procedure

Figure 9.7.4.2-1 illustrates the procedure where the VAE server sends notification of the network monitoring information to the V2X UEs.

Pre-conditions:

1. The VAE server acting as a SCS/AS is configured with the SCEF information and is authorized to exchange information with the SCEF as specified in subclause 4.9 in 3GPP TS 23.682 [8]. The VAE server has subscribed to QoS notification service from 5GS (e.g. PCF/NWDAF). The notification may either include the request for QoS sustainability events as specified in 3GPP TS 23.288 [9] or can include a QoS change notification requests as provided by SMF and specified in 3GPP TS 23.287 [8];

2. The V2X UE1 and V2X UE2 have subscribed for the network monitoring information at the VAE server.



Figure 9.7.4.2-1: Notifications for network monitoring information

1. The VAE server communicates with the SCEF to receive network monitoring information as per the procedure in subclause 4.9 of 3GPP TS .23.682 [8]. The VAE server subscription to QoS monitoring service from 5GS (e.g. PCF/NWDAF) may be active for a certain period of time or a given geographical area. The monitoring may either include the request for QoS sustainability events as specified in 3GPP TS 23.288 [9], or can include a QoS change notification requests as provided by SMF and specified in 3GPP TS 23.287 [8]. The reporting may be configured by the application enabler layer for a given area, time, periodicity etc taking into account the service requirement and other parameters (e.g. expected congestion in certain area, time of the day, road conditions). Based on the subscription, as specified in 3GPP TS 23.287 [8], 5GS provides the extended QoS monitoring report, over N33 interface. This report may come either from NWDAF or SMF via PCF/NEF.

2. The network monitoring information (e.g. uplink or downlink link degradations, congestions, overload) available at the VAE server about the on-going V2V session(s) is based on the original network monitoring information provided by the SCEF in step 1, and QoS monitoring report from 5GS as specified in step 1. The VAE server determines the network monitoring information to send to the UE.

3., The monitoring information is sent to the subscribed V2X UEs via network monitoring information notification.

\* \* \* End of all the Changes \* \* \* \*