**3GPP TSG SA WG2 Meeting #153E *S2-220xxxx***

**Elbonia, October 10 – 17, 2022**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **23.501** | **CR** | **x** | **rev** | **-** | **Current version:** | **17.6.0** |  |
|  | | | | | | | | |
| *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 |  | Radio Access Network |  | Core Network | **X** |

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| ***Title:*** | Basic description of Service Function Chaining | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | SA2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | SFC | | | | |  | ***Date:*** | | | 2022-09-30 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-18 |
|  | *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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
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| ***Reason for change:*** | | Even though the existing support for N6-LAN traffic steering is re-used, it is useful to capture in 23.501 an overall description of the support of service function chaining as concluded in the FS\_SFC study. | | | | | | | | |
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| ***Summary of change:*** | | Capture the basic descriotion of service function chaining | | | | | | | | |
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| ***Consequences if not approved:*** | | Incomplete specification | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.6.X (new) | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

*This CR captures KI#1 aspects. KI#2 aspects in separate CR*

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

### 5.6.X Traffic steering control and service function chaining

Traffic Steering Control refers to the capability to activate/deactivate traffic steering policies for the purpose of:

- Service function chaining, i.e. steering subscriber's traffic flows to appropriate operator or 3rd party service functions (e.g. NAT, antimalware, parental control, DDoS protection) in the N6-LAN. This is supported in non-roaming and home-routed scenarios only.

- AF influenced traffic diversion which enables the routing of the user traffic matching the traffic filters provided in the PCC rule to a local Data Network identified by the DNAI per AF request. This is described in clause 5.6.7.

The PCF controls traffic steering by provisioning and modifying traffic steering control information in PCC rules as described in TS 23.503 [45], e.g. clause 6.1.3.14. In the case of service function chaining, the traffic steering control information consists of a traffic description and, a reference to a traffic steering policy that is configured in the SMF/UPF. A traffic steering policy can be used for the uplink, the downlink or for both directions. The SMF provides instructions to UPF for traffic steering as further detailed in clause 5.8.2.11.

To enforce the traffic steering policy for service function chaining, the UPF performs deployment specific actions as configured for that traffic steering policy. The UPF may for example perform packet marking where, for the traffic identified by the PDR, the UPF provides information for traffic steering, as part of the forwarded packets, to the N6-LAN. This information for traffic steering can then be used for steering the traffic to a set of service functions in a specific order in the N6-LAN. For enforcing the traffic steering policy, the UPF may support traffic steering related functions and user plane encapsulation protocols as defined by other standard organizations.

The mechanism used for forwarding the traffic between the service functions within the N6-LAN is out of 3GPP scope.

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