3GPP TSG CT WG3 Meeting #125 C3-225139

Toulouse, France, 14th - 18th November, 2022

3GPP TSG CT WG4 Meeting #113 C4-225352

Toulouse, France, 14th - 18th November, 2022

**Source: Intel**

**Title: New WID on CT aspects of 5G System Enabler for Service Function Chaining**

**Document for: Approval**

**Agenda Item: 18.1.1 / 5**

3GPP™ Work Item Description

Information on Work Items can be found at <http://www.3gpp.org/Work-Items>
See also the [3GPP Working Procedures](http://www.3gpp.org/specifications-groups/working-procedures), article 39 and the TSG Working Methods in [3GPP TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm)

Title: CT aspects of 5G System Enabler for Service Function Chaining

Acronym: SFC

Unique identifier: tbd

Potential target Release: Rel-18

# 1 Impacts

{For Normative work, identify the anticipated impacts. For a Study, identify the scope of the study}

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Affects: | UICC apps | ME | AN | CN | Others (specify) |
| Yes |  |  |  | X |  |
| No | X | X | X |  | X |
| Don't know |  |  |  |  |  |

# 2 Classification of the Work Item and linked work items

## 2.1 Primary classification

### This work item is a …

|  |  |
| --- | --- |
|  | Feature |
| X | Building Block |
|  | *Work Task* |
|  | Study Item |

## 2.2 Parent Work Item

|  |
| --- |
| Parent Work / Study Items  |
| Acronym | Working Group | Unique ID | Title (as in 3GPP Work Plan) |
| SFC | SA2 | 970012 | 5G System Enabler for Service Function Chaining |

### 2.3 Other related Work Items and dependencies

|  |
| --- |
| Other related Work /Study Items (if any) |
| Unique ID | Title | Nature of relationship |
| 900028 | Support for Service Function Chaining | Stage 1 requirements |
| 940052 | Study on System Enabler for Service Function Chaining | SA2 Study Item |

# 3 Justification

In Rel-18, stage 1 service requirements in TS 22.101 clause 30.1, TS 22.261 clause 6.35, and TS 22.115 clause 5.2.14, have been approved for the enhancement of Service Function Chaining (SFC) for 5G networks, including aspects such as allowing third parties to request a chain of service functions provided by the network operators based on operator’s service function chaining policies for their applications as well as management and charging of service functions and chains of service functions requested by the third parties.

Based on those service requirements the stage 2 work of SFC started at SA#94-e with the SA2 study item on system enabler for service function chaining (FS\_SFC). The key issues, solutions, and conclusions of the SA2 study are captured in TR 23.700-18. The conclusions specified in TR 23.700-18 will be the base for the normative work in SA2.

Furthermore, a new SA2 work item “5G System Enabler for Service Function Chaining” (SFC) was approved by TSG SA at SA#97-e.

Considering the above, impacts on protocols and interfaces under CT WGs' responsibilities are foreseen. The CT WGs will need to carry out stage-3 work in Rel-18 to satisfy the normative requirements arising out of stage-2 work.

Based on progress in SA2, this WID will be updated as needed.

# 4 Objective

The objective of this work item is to specify the CT aspects of SFC. The stage-3 work shall be started after the applicable normative stage-2 requirements in SA2 are available.

The stage-3 aspects will include the following (CT WGs impact areas will be identified based on the progress in the normative work in SA2):

CT3:

* Traffic Steering Policy and SFC enhancements, and to enable AF to request pre-defined SFC for traffic flow(s) related with target UE(s):
1. Potential updates to the Nnef\_TrafficInluence Service to support the new SFC policy ID corresponding to a pre-defined Service Function Chain policy and optional metadata.
2. Potential updates to the Npcf\_PolicyAuthorization Service to support the new SFC policy ID and optional metadata.
3. Potential updates to the UDR to include SFC policy ID and optional metadata in the Traffic Influence Data to the Nudr\_DataRepository Service.
4. Potential updates to the PCC Traffic influence procedures to support AF traffic influence for SFC.
5. Potential updates to the Npcf\_SMPolicyControl Service to include the optional metadata.
6. Potential updates to the Npcf\_SMPolicyControl Service to support traffic steering control in the N6-LAN and AF-influenced traffic steering control to be applicable to the same traffic simultaneously.

CT4:

* Traffic Steering Policy and SFC enhancements:
1. Potential updates to the UPF to support optional metadata included in the FAR.

# 5 Expected Output and Time scale

|  |
| --- |
| New specifications {One line per specification. Create/delete lines as needed} |
| Type  | TS/TR number | Title | For info at TSG#  | For approval at TSG# | Rapporteur |
|  |  |  |  |  |  |

|  |
| --- |
| Impacted existing TS/TR {One line per specification. Create/delete lines as needed} |
| TS/TR No. | Description of change  | Target completion plenary# | Remarks |
| 29.244 | Potential updates to support metadata included in the FAR  | CT#102 (Dec. 2023) | CT4 Responsibility |
| 29.512 | Potential updates to the Npcf\_SMPolicyControl Service to support SFC. | CT#102 (Dec. 2023) | CT3 Responsibility |
| 29.513 | Potential updates to the PCC Traffic influence procedures or SFC. | CT#102 (Dec. 2023) | CT3 Responsibility |
| 29.514 | Potential updates to the Npcf\_PolicyAuthorization Service for SFC. | CT#102 (Dec. 2023) | CT3 Responsibility |
| 29.519 | Potential updates to Traffic Influence Data for SFC. | CT#102 (Dec. 2023) | CT3 Responsibility |
| 29.522 | Potential updates to NEF Northbound API TrafficInfluence for SFC. | CT#102 (Dec. 2023) | CT3 Responsibility |

# 6 Work item Rapporteur(s)

Thomas Luetzenkirchen, Intel, (thomas.luetzenkirchen@intel.com)

# 7 Work item leadership

CT3

# 8 Aspects that involve other WGs

SA3 for any security aspects.

# 9 Supporting Individual Members

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| Supporting IM name |
| Intel |
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