**3GPP TSG- Meeting #**

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| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
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|  | **29.522** | **CR** |  | **rev** |  | **Current version:** | **19.0.0** |  |
|  |
| *For* [HE](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)LP*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:*** | Removal of restriction on MultiTrafficInflu feature for future PDU session(s) |
|  |  |
| ***Source to WG:*** | CEWiT |
| ***Source to TSG:*** | CT3 |
|  |  |
| ***Work item code:*** | TEI19,  |  | ***Date:*** | 2024-11-08 |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***Release:*** | Rel-19 |
|  | *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 canbe 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-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19) Rel-20 (Release 20)* |
|  |  |
| ***Reason for change:*** | MultiTrafficInflu feature was added in Release-18 only for ongoing PDU session that is identified by the UE address provided in the AF request. This CR removes this restriction based on the addition of new feature in UDR, MultiTrafficInflu\_Ext1 that supports MultiTrafficInflu for future PDU sessions that are not identified by UE address.Also, some editorial changes related to this feature are addressed.MultiTrafficInflu\_Ext1, feature uses same attributes as MultiTrafficInflu feature. In Table 5.4.3.3.2-1, the note given below adds the restriction for not supporting MuliTrafficInflu feature for future PDU session(s). NOTE 12: This attribute may be present only if one of "macAddr", attribute "ipv4Addr" attribute or the "ipv6Addr" attribute is provided.Updating the above note will enable Multiple Traffic Influence feature to be applicable for both ongoing and future PDU session(s).  |
|  |  |
| ***Summary of change:*** | 1. Updating multiple Note in Table 5.4.3.3.2-1.
2. Updating the references of Note 13 for appropriate attributes in the Table 5.4.3.3.2-1.
3. Adding the feature MultiTrafficInflu\_Ext1 in the Table 5.4.4.
4. Addition of the feature MultiTrafficInflu\_Ext1 in applicability column of trafficDataSets attribute in existing clause 5.4.3.3.2 TrafficInfluSub Data Type and in the existing clause 5.4.3.3.3 TrafficinfluSubPatch Data Type.
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| ***Consequences if not approved:*** | If not approved, the MultiTrafficInflu feature will not be supported for future PDU Session(s). |
|  |  |
| ***Clauses affected:*** | 5.4.3.3.2, 5.4.3.3.3, 5.4.4 |
|  |  |
|  | **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 does not impact any OpenAPI description. This CR must be considered along with the CR#0527. |
|  |  |
| ***This CR's revision history:*** | Resubmitting the CR based on LS(S2-2410797) |

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

##### 5.4.3.3.2 Type: TrafficInfluSub

This type represents a traffic influence subscription. The same structure is used in the subscription request and subscription response.

Table 5.4.3.3.2-1: Definition of type TrafficInfluSub

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability(NOTE 1) |
| afServiceId | string | O | 0..1 | Identifies a service on behalf of which the AF is issuing the request. |  |
| afAppId | string | O | 0..1 | Identifies an application.(NOTE 3) |  |
| afTransId | string | O | 0..1 | Identifies an NEF Northbound interface transaction, generated by the AF. |  |
| appReloInd | boolean | O | 0..1 | Identifies whether an application can be relocated once a location of the application has been selected.- Set to "true" if it shall be relocated.- Set to "false" if it shall not be relocated.- Default value is "false" if omitted. |  |
| dnn | Dnn | O | 0..1 | Identifies a DNN, a full DNN with both the Network Identifier and Operator Identifier, or a DNN with the Network Identifier only. |  |
| snssai | Snssai | O | 0..1 | Identifies an S-NSSAI. |  |
| externalGroupId | ExternalGroupId | O | 0..1 | Identifies a group of users.(NOTE 2) (NOTE 6) |  |
| externalGroupIds | array(ExternalGroupId) | O | 2..N | List of external group identifiers associated with the subscriber.(NOTE 2) (NOTE 6) (NOTE 7) | FinerGranUEs |
| extSubscCats | array(string) | O | 1..N | List of external categories associated with the subscriber.(NOTE 8) | FinerGranUEs |
| anyUeInd | boolean | O | 0..1 | Identifies whether the AF request applies to any UE (i.e. all UEs).- Set to "true": the AF request is applicable to any UE.- Set to "false": the AF request is not applicable to any UE.- Default value is "false" if omitted.(NOTE 2) |  |
| subscribedEvents | array(SubscribedEvent) | O | 1..N | Identifies the requirement to be notified of the event(s).  |  |
| gpsi | Gpsi | O | 0..1 | Identifies a user. (NOTE 2) |  |
| ipv4Addr | Ipv4Addr | O | 0..1 | Identifies the IPv4 address. (NOTE 2) |  |
| ipDomain | string | O | 0..1 | The IPv4 address domain identifier.The attribute may only be provided if the ipv4Addr attribute is present. |  |
| ipv6Addr | Ipv6Addr | O | 0..1 | Identifies the IPv6 address. (NOTE 2) |  |
| macAddr | MacAddr48 | O | 0..1 | Identifies the MAC address. (NOTE 2) |  |
| dnaiChgType | DnaiChangeType | O | 0..1 | Identifies a type of notification regarding UP path management event. |  |
| notificationDestination | Link | C | 0..1 | Contains the Callback URL to receive the notification from the NEF.It shall be present if the "subscribedEvents" is present. |  |
| requestTestNotification | boolean | O | 0..1 | Indicates whether the AF requests the NEF to send a test notification.- Set to "true" by the AF to request the NEF to send a test notification as defined in clause 5.2.5.3 of 3GPP TS 29.122 [4].- Set to "false" by the AF to not to request the NEF to send a test notification.- Default value is "false" if omitted. | Notification\_test\_event |
| websockNotifConfig | WebsockNotifConfig | O | 0..1 | Configuration parameters to set up notification delivery over Websocket protocol. | Notification\_websocket |
| self | Link | C | 0..1 | Link to the created resource. This parameter shall be supplied by the NEF in HTTP responses that include an object of TrafficInfluSub type |  |
| trafficDataSets | map(TrafficDataSet) | O | 2..N | Contains multiple sets of traffic filters with the corresponding N6 traffic routing requirements.The key of the map shall be the value of the "setId" attribute of the TrafficDataSet data type.(NOTE 3, NOTE 11, NOTE 12, NOTE 13) | MultiTrafficInflu |
| trafficFilters | array(FlowInfo) | O | 1..N | Identifies IP packet filters.(NOTE 3) |  |
| ethTrafficFilters | array(EthFlowDescription) | O | 1..N | Identifies Ethernet packet filters.(NOTE 3) |  |
| trafficRoutes | array(RouteToLocation) | O | 1..N | Identifies the N6 traffic routing requirement.(NOTE 9, NOTE 11) |  |
| sfcIdDl | string | O | 0..1 | Reference to a pre-configured steering of user traffic to service function chain in downlink.(NOTE 5) | SFC |
| sfcIdUl | string | O | 0..1 | Reference to a pre-configured steering of user traffic to service function chain in uplink.(NOTE 5) | SFC |
| metadata | Metadata | O | 0..1 | Contains opaque information for the service functions in the N6-LAN that is provided by AF and transparently sent to UPF. May only be provided when "sfcIdDl" and/or "sfcIdUl" are provided. | SFC |
| tfcCorrInd | boolean | O | 0..1 | Indication of traffic correlation.May only be included when "externalGroupId" attribute was included within the TrafficInfluSub data type previously.It is used to indicate that for the group of UEs, the targeted PDU sessions should be correlated by a common DNAI.Set to "true" if it should be correlated; otherwise set to "false". Default value is "false" if omitted.(NOTE 4, NOTE 10, NOTE 13) |  |
| tfcCorreInfo | TrafficCorrelationInfo | O | 0..1 | Contains the information for traffic correlation. The "notifUri" and "notifCorrId" attributes are not applicable for "tfcCorreInfo" attribute.(NOTE 10, NOTE 13) | CommonEASDNAI |
| tempValidities | array(TemporalValidity) | O | 1..N | Indicates the time interval(s) during which the AF request is to be applied. |  |
| validGeoZoneIds | array(string) | O | 1..N | Identifies a geographic zone that the AF request applies only to the traffic of UE(s) located in this specific zone.This attribute is deprecated; the attribute "geoAreas" should be used instead. |  |
| geoAreas | array(GeographicalArea) | O | 1..N | Identifies geographical areas within which the AF request applies.This attribute deprecates validGeoZoneIds attribute. |  |
| afAckInd | boolean | O | 0..1 | Identifies whether the AF acknowledgement of UP path event notification is expected.- "true" indicates that the AF acknowledgement of UP path event is expected.- "false" indicates that the AF acknowledgement of UP path event notification is not expected.- Default value is "false" if omitted. | URLLC |
| addrPreserInd | boolean | O | 0..1 | Indicates whether UE IP address shall be preserved.- "true" indicates that the UE IP address shall be preserved.- "false" indicates that the UE IP address shall not preserved.- Defalult value is "false" if omitted. | URLLC |
| simConnInd | boolean | O | 0..1 | Indication of whether simultaneous connectivity shall be temporarily maintained for the source and target PSA.- "true" indicates that the temporary simultaneous connectivity shall be kept.- "false" indicates that the temporary simultaneous connectivity shall not be kept.- Default value is "false" if omitted. | SimultConnectivity |
| simConnTerm | DurationSec | O | 0..1 | Indication of the minimum time interval to be considered for inactivity of the traffic routed via the source PSA during the edge re-location procedure. It may be included when the "simConnInd" attribute is set to true.  | SimultConnectivity |
| maxAllowedUpLat | Uinteger | O | 0..1 | Indicates the target user plane latency in units of milliseconds. The SMF may use this value to decide whether edge relocation is needed to ensure that the user plane latency does not exceed the value. | AF\_lantency |
| easIpReplaceInfos | array(EasIpReplacementInfo) | O | 1..N | Contains EAS IP replacement information. | EASIPreplacement |
| easRedisInd | boolean | O | 0..1 | Indicates whether the EAS rediscovery is required for the application.- "true" indicates that the EAS rediscovery is required for the application.- "false" indicates that the EAS rediscovery is not required for the application.- Defalult value is "false" if omitted.The indication shall be invalid after it was applied unless it is provided again. | EASDiscovery |
| eventReq | ReportingInformation | O | 0..1 | Indicates the event reporting requirements.This attribute may be provided if the "EDGEAPP" feature is supported and the "subscribedEvents" attribute is present. | EDGEAPP |
| eventReports | array(EventNotification) | C | 1..N | Represents user plane path management event report(s).This attribute shall be present in an HTTP POST response if the immediate reporting indication in the "immRep" attribute within the "eventReq" attribute is set to true and the "subscribedEvents" was present in the corresponding HTTP POST request and the report(s) are available.This attribute may also be present in an HTTP PUT or PATCH response when the report(s) are available. | EDGEAPP |
| candDnaiInd | boolean | O | 0..1 | Indication of reporting candidate DNAI(s). If it is included and set to "true", the candidate DNAI(s) for the PDU session need to be reported. Otherwise, the default value is "false" if omitted.(NOTE 13) | CommonEASDNAI |
| plmnId | PlmnId | O | 0..1 | Identifies the H-PLMN of the UE. | HR-SBO |
| portNumber | Port | O | 0..1 | Indicates the UDP or TCP port number associated with the UE IP address as provided in the "ipv4Addr" or "ipv6Addr" property. | HR-SBO |
| suppFeat | SupportedFeatures | C | 0..1 | Indicates the list of Supported features used as described in clause 5.4.4.This attribute shall be provided in the POST request and in the response of successful resource creation. |  |
| NOTE 1: Properties marked with a feature as defined in clause 5.4.4 are applicable as described in clause 5.2.7 of 3GPP TS 29.122 [4]. If no feature is indicated, the related property applies for all the features.NOTE 2: If "HR-SBO" feature is not supported, only one of individual UE identifier (i.e. "gpsi", "macAddr", "ipv4Addr" or "ipv6Addr"), External Group Identifier (i.e. "externalGroupId" or "externalGroupIds" (is included when FinerGranUEs feature is supported)) or any UE indication "anyUeInd" shall be included. If "HR-SBO" feature is supported and the AF requests to influence traffic routing is working in HR-SBO mode in the VPLMN, only one of individual UE identifier (i.e. "gpsi", "ipv4Addr" or "ipv6Addr") or any UE indication "anyUeInd" shall be included.NOTE 3: Only one of "afAppId", "trafficFilters", "ethTrafficFilters" or “trafficDataSets” shall be included.NOTE 4: The indication of traffic correlation shall be provided only when the AF requires that all the PDU sessions related to the 5G VN group member UEs should be correlated by a common DNAI in the user plane for the traffic as described in 3GPP TS 23.501 [3], clause 5.6.7.1 and clause 5.29.NOTE 5: When the SFC feature is supported, for the purpose of influencing service function chaining, at least one attribute shall be present.NOTE 6: The attributes "externalGroupId" and "externalGroupIds" are mutually exclusive attributes.NOTE 7: The AF request applies to the UE(s) that belong to all the External Group Identifiers indicated by the attribute "externalGroupIds", when included.NOTE 8: The AF request applies to the UE(s) that belong to all the External Subscriber Categories indicated by the attribute "extSubscCats", which is included only if either "externalGroupIds" attribute is included or "externalGroupId" is included or "anyUeInd" attribute is included. If "HR-SBO" feature is supported and the AF requests to influence is working in HR-SBO mode, the "extSubscCats" attribute shall not be provided.NOTE 9: When only one DNAI is included, and the Indication of traffic correlation within the "tfcCorrInd" attribute is available or the "corrType" attribute of the "tfcCorreInfo" includes the value "COMMON\_DNAI", the DNAI is used as common DNAI for UEs identified by AF request.NOTE 10: The "tfcCorrInd" attribute and the "tfcCorreInfo" attribute are mutually exclusive.NOTE 11: These attributes are mutually exclusive. Either one of them may be present.NOTE 12: When the "MultiTrafficInflu" feature is supported and the "MultiTrafficInflu\_Ext1" is not supported, this attribute may be present only if one of "macAddr", attribute "ipv4Addr" attribute or the "ipv6Addr" attribute is provided.NOTE 13: When the "MultiTrafficInflu" is supported, if the "trafficDataSets" attribute is present, then the "candDnaiInd", "tfcCorrInd" and "tfcCorreInfo" attributes shall not be present. |

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

##### 5.4.3.3.3 Type: TrafficInfluSubPatch

This type represents a subscription of traffic influence parameters provided by the AF to the NEF. The structure is used for HTTP PATCH request.

Table 5.4.3.3.3-1: Definition of type TrafficInfluSubPatch

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| appReloInd | boolean | O | 0..1 | Identifies whether an application should be relocated once a location of the application has been selected.- "true" indicates that an application shall be relocated once a location of the application has been selected.- "false" indicates that an application shall not be relocated once a location of the application has been selected.(NOTE 1) |  |
| trafficDataSets | map(TrafficDataSetRm) | O | 1..N | Contains one or several set(s) of traffic filters with the corresponding N6 traffic routing requirements.The key of the map shall be the value of the "setId" attribute of the TrafficDataSetRm data type. | MultiTrafficInflu |
| trafficFilters | array(FlowInfo) | O | 1..N | Identifies IP packet filters. |  |
| ethTrafficFilters | array(EthFlowDescription) | O | 1..N | Identifies Ethernet packet filters. |  |
| trafficRoutes | array(RouteToLocation) | O | 1..N | Identifies the N6 traffic routing requirement.(NOTE 1) |  |
| sfcIdDl | string | O | 0..1 | Reference to a pre-configured steering of user traffic to service function chain in downlink.  | SFC |
| sfcIdUl | string | O | 0..1 | Reference to a pre-configured steering of user traffic to service function chain in uplink.  | SFC |
| metadata | Metadata | O | 0..1 | Contains opaque information for the service functions in the N6-LAN that is provided by AF and transparently sent to UPF. | SFC |
| tfcCorrInd | boolean | O | 0..1 | Indication of traffic correlation.May only be included when "externalGroupId" attribute was included within the TrafficInfluSub data type previously.- "true" indicates that for the group of UEs, the targeted PDU sessions should be correlated by a common DNAI.- "false" indicates that for the group of UEs, the targeted PDU sessions should not be correlated by a common DNAI.(NOTE 2) | CommonEASDNAI |
| tfcCorreInfo | TrafficCorrelationInfo | O | 0..1 | Contains the information for traffic correlation. The "notifUri" and "notifCorrId" attributes are not applicable for "tfcCorreInfo" attribute. (NOTE 2) | CommonEASDNAI |
| tempValidities | array(TemporalValidity) | O | 1..N | Indicates the time interval(s) during which the AF request is to be applied.(NOTE 1) |  |
| validGeoZoneIds | array(string) | O | 1..N | Identifies a geographic zone that the AF request applies only to the traffic of UE(s) located in this specific zone.(NOTE 1)This attribute is deprecated; the attribute "geoAreas" should be used instead. |  |
| geoAreas | array(GeographicalArea) | O | 1..N | Identifies geographical areas within which the AF request applies. (NOTE 1)This attribute deprecates validGeoZoneIds attribute. |  |
| afAckInd | boolean | O | 0..1 | Identifies whether the AF acknowledgement of UP path event notification is expected.- "true" indicates that the AF acknowledgement of UP path event notification is expected.- "false" indicates that the AF acknowledgement of UP path event notification is not expected.(NOTE 3) | URLLC |
| addrPreserInd | boolean | O | 0..1 | Indicates whether UE IP address shall be preserved.- "true" indicates that the UE IP address shall be preserved.- "false" indicates that the UE IP address shall not be preserved.(NOTE 3) | URLLC |
| simConnInd | boolean | O | 0..1 | Indication of whether simultaneous connectivity shall be temporarily maintained for the source and target PSA.- "true" indicates that temporary simultaneous connectivity shall be kept.- "false" indicates that the temporary simultaneous connectivity shall not be kept. | SimultConnectivity |
| simConnTerm | DurationSec | O | 0..1 | Indication of the minimum time interval to be considered for inactivity of the traffic routed via the source PSA during the edge re-location procedure. | SimultConnectivity |
| maxAllowedUpLat | UintegerRm | O | 0..1 | Indicates the target user plane latency in units of milliseconds. The SMF may use this value to decide whether edge relocation is needed to ensure that the user plane latency does not exceed the value. | AF\_latency |
| easIpReplaceInfos | array(EasIpReplacementInfo) | O | 1..N | Contains EAS IP replacement information. | EASIPreplacement |
| easRedisInd | boolean | O | 0..1 | Indicates whether the EAS rediscovery is required for the application.- "true" indicates that the EAS rediscovery is required for the application.- "false" indicates that the EAS rediscovery is not required for the application.The indication shall be invalid after it was applied unless it is provided again. | EASDiscovery |
| notificationDestination | Link | O | 0..1 | Contains the Callback URL to receive the notification from the NEF. |  |
| eventReq | ReportingInformation | O | 0..1 | Indicates the event reporting requirements.This attribute may be provided if the "EDGEAPP" feature is supported. | EDGEAPP |
| NOTE 1: The value of the property shall be set to NULL for removal.NOTE 2: The "tfcCorrInd" attribute and the "tfcCorreInfo" attribute are mutually exclusive.NOTE 3: The value of the property shall be set to NULL for removal, and in that case, the default value "false" applies. |

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

### 5.4.4 Used Features

The table below defines the features applicable to the TrafficInfluence API. Those features are negotiated as described in clause 5.2.7 of 3GPP TS 29.122 [4].

Table 5.4.4-1: Features used by TrafficInfluence API

|  |  |  |
| --- | --- | --- |
| Feature number | Feature Name | Description |
| 1 | Notification\_websocket | The delivery of notifications over Websocket is supported as described in 3GPP TS 29.122 [4]. This feature requires that the Notification\_test\_event feature is also supported. |
| 2 | Notification\_test\_event | The testing of notification connection is supported as described in 3GPP TS 29.122 [4]. |
| 3 | URLLC | This feature indicates support of Ultra Reliable Low Latency Communication (URLLC) requirements (i.e. AF application relocation acknowledgement and UE address(es) preservation).  |
| 4 | MacAddressRange | Indicates the support of a set of MAC addresses with a specific range in the traffic filter. |
| 5 | AF\_latency | This feature indicates support for Edge relocation considering user plane latency. |
| 6 | EASDiscovery | This feature indicates the support of EAS (re)discovery. |
| 7 | EASIPreplacement | This feature indicates the support of provisioning of EAS IP replacement info.  |
| 8 | ExposureToEAS | This feature indicates support for the indication provided by the AF of direct event notification of QoS monitoring events from the UPF to the Local NEF or the AF in 5GC. |
| 9 | SimultConnectivity | This feature indicates support of temporary simultaneous connectivity over source and target PSA at edge relocation. |
| 10 | ULBuffering | This feature indicates support for Uplink buffering indication for edge relocation. |
| 11 | EDGEAPP | This feature controls the support of EDGE applications related functionalities (e.g. support the provisioning of event reporting requirements). |
| 12 | SFC | This feature indicates support for application function influence on service function chaining(s). |
| 13 | FinerGranUEs | This feature indicates support for handling of more granular set of UEs. |
| 14 | CommonEASDNAI | This feature controls the support of the common EAS/DNAI selection. |
| 15 | HR-SBO | This feature indicates the support of HR-SBO scenarios. |
| 16 | MultiTrafficInflu | This feature indicates the support for providing more than one set of traffic filters and the corresponding N6 traffic routing requirements for traffic influence request identified by UE Address. |
| 17 |  MultiTrafficInflu\_Ext1 | This feature indicates the support of enhancements related to providing more than one set of traffic filters and the corresponding N6 traffic routing requirements.The following functionalities are supported:- Support the provisioning of more than one set of traffic filters and the corresponding N6 traffic routing requirements for for traffic influence request not identified by UE Address.- Support traffic routing requirements installation failure reporting.This support requires that the MultiTrafficInflu feature is also supported. |
| Feature: A short name that can be used to refer to the bit and to the feature, e.g. "Notification".Description: A clear textual description of the feature. |

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