**3GPP SA3LI#79e-a *draft\_s3i200615-r2***

**eMeeting, 19-23 October 2020**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **33.128** | **CR** | **0133** | **rev** | **1** | **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 |  | Radio Access Network |  | Core Network | **X** |

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|  | | | | | | | | | | |
| ***Title:*** | PDU session ID in PDHR and PDSR | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | SA3-LI (Ericsson, NTAC, Nokia, Nokia Shanghai Bell, Softel Systems) | | | | | | | | | |
| ***Source to TSG:*** | SA3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | LI16 | | | | |  | ***Date:*** | | | 2020-10-20 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | F |  | | | | | ***Release:*** | | | Rel-16 |
|  | *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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | In the current version of the TS, PDHeaderReport and PDSummaryReport records require the UPF to extract the PDU Session ID from each packet and to send it as mandatory parameter. As this information is not available at the UPF this requirements cannot be fulfilled.  In addition, a few internal references to clauses and tables are incorrect. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | It is proposed to use as PDU Session ID the value 255.  References are corrected | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Wrong requirement in the specification; it would not be possible to fill in a predictable way a parameter which is mandatory in the two records over LI\_X2 and LI\_HI2; interworking problems.  Incorrect references. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.2.3.5.3, 6.2.3.5.4, 6.2.3.9 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | | s3i200615 | | | | | | | | |

##### \*\*\* FIRST CHANGE \*\*\*

##### 6.2.3.5.3 Packet Data Header Reporting (PDHR)

If the per-packet form of packet data header reporting, i.e. PDHR, is used, the IRI-POI in the UPF extracts the following information from each packet.

Table 6.2.3-12: PDHeaderReport record

|  |  |  |
| --- | --- | --- |
| Field name | Description | M/C/O |
| pDUSessionID | The PDU Session ID value 255 shall be used by the sender; the receiver shall ignore the parameter (see NOTE). | M |
| sourceIPAddress | Shall contain the source address of the packet from the 32-bit *“Source Address”* field in IPv4, as defined in IETF RFC 791 [34], or from the 128-bit *“Source Address”* field in IPv6, as defined in IETF RFC 2460 [27]. | M |
| sourcePort | Shall contain the *“Source Port*” number that indicates an application or service running on top of the transport, if the *“Protocol”* IP field (see the *nextLayerProtocol* field below in this table) is one of:  a) Transmission Control Protocol (**TCP**), IP “Protocol” field decimal “6”; see IETF RFC 793[28].  b) User Datagram Protocol (**UDP**), IP “Protocol” field decimal “17”; see IETF RFC 768[29].  c) Datagram Congestion Control Protocol (**DCCP**), IP “Protocol” field decimal “33”; see IETF RFC 4340[30].  d) Stream Control Transmission Protocol (**SCTP**), IP “Protocol” field decimal “132”; see IETF RFC 4960 [31].  For further details on Layer four protocols, see IANA[32]. | C |
| destinationIPAddress | Shall contain the destination address of the packet from the 32-bit *“Destination Address”* field in IPv4, as defined in IETF RFC 791 [34], or from the 128-bit *“Destination Address”* field, as defined in IETF RFC 2460 [27]. | M |
| destinationPort | Shall contain the *“Destination Port*” number that indicates an application or service running on top of the transport, if the *“Protocol”* IP field (see the *nextLayerProtocol* field below in this table) is one of:  e) Transmission Control Protocol (**TCP**), IP “Protocol” field decimal “6”; see IETF RFC 793[28].  f) User Datagram Protocol (**UDP**), IP “Protocol” field decimal “17”; see IETF RFC 768 [29].  g) Datagram Congestion Control Protocol (**DCCP**), IP “Protocol” field decimal “33”; see IETF RFC 4340[30].  h) Stream Control Transmission Protocol (**SCTP**), IP “Protocol” field decimal “132”; see IETF RFC 4960 [31].  For further details on Layer four protocols, see IANA[32]. | C |
| nextLayerProtocol | Shall contain the contents of the IP *“Protocol”* field as defined in IETF RFC 791 [34] (bits 72..79 in the IP header), and is one of the assigned Internet protocol numbers defined in *IANA* [32]. | M |
| iPv6flowLabel | If the IP addresses in the report are IPv6, this field shall contain the 20-bit IPv6 “Flow Label” as defined in:  - IPv6 IETF RFC 2460 [27], and  - IPV6 Flow Label Specification IETF RFC 6437 [33]. | C |
| direction | Shall contain the direction of the intercepted packet, and it indicates either “from target” or “to target.” | M |
| packetSize | Shall contain the value of the *“Total Length*” IP header field if IPv4 is used, as defined in IETF RFC 791 [34], or the value of the “*Payload Length*” field if IPv6 is used, as defined in IETF RFC 2460 [27]. | M |
| NOTE: This is a placeholder value used to fill the pDUSessionID field, given that the UPF does not receive the PDU Session ID used for the session by the SMF, so this information is not available at the UPF. The PDU Session ID can be retrieved by the LEMF from the IRIs generated by the IRI-POI at the SMF and delivered by the MDF2. | | |

##### \*\*\* NEXT CHANGE \*\*\*

##### 6.2.3.5.4 Packet Data Summary Reporting (PDSR)

If the summary form of the packet data header reporting, i.e. PDSR, is used, the IRI-POI in the UPF extracts from each packet the following information and aggregates it in summaries.

Table 6.2.3-13: PDSummaryReport record

|  |  |  |
| --- | --- | --- |
| Field name | Description | M/C/O |
| pDUSessionID | The PDU Session ID value 255 shall be used; the receiver shall ignore the parameter (see NOTE). | M |
| sourceIPAddress | Shall contain the source address of the packet from the 32-bit *“Source Address”* field in IPv4, as defined in IETF RFC 791 [34], or from the 128-bit *“Source Address”* field in IPv6, as defined in IETF RFC 2460 [27]. | M |
| sourcePort | Shall contain the *“Source Port*” number that indicates an application or service running on top of the transport, if the *“Protocol”* IP field (see the *nextLayerProtocol* field below in this table) is one of:  a) Transmission Control Protocol (**TCP**), IP “Protocol” field decimal “6”; see IETF RFC 793[28].  b) User Datagram Protocol (**UDP**), IP “Protocol” field decimal “17”; see IETF RFC 768[29].  c) Datagram Congestion Control Protocol (**DCCP**), IP “Protocol” field decimal “33”; see IETF RFC 4340[30].  d) Stream Control Transmission Protocol (**SCTP**), IP “Protocol” field decimal “132”; Stream Control Transmission Protocol [31].  For further details on Layer four protocols, see IANA [32]. | C |
| destinationIPAddress | Shall contain the destination address of the packet from the 32-bit *“Destination Address”* field in IPv4, as defined in IETF RFC 791 [34], or from the 128-bit *“Destination Address”* field, as defined in IETF RFC 2460 [27]. | M |
| destinationPort | Shall contain the *“Destination Port*” number that indicates an application or service running on top of the transport, if the *“Protocol”* IP field (see the *nextLayerProtocol* field below in this table) is one of:  e) Transmission Control Protocol (**TCP**), IP “Protocol” field decimal “6”; see IETF RFC 793[28].  f) User Datagram Protocol (**UDP**), IP “Protocol” field decimal “17”; see IETF RFC 768 [29].  g) Datagram Congestion Control Protocol (**DCCP**), IP “Protocol” field decimal “33”; see IETF RFC 4340[30].  h) Stream Control Transmission Protocol (**SCTP**), IP “Protocol” field decimal “132”; Stream Control Transmission Protocol [31].  For further details on Layer four protocols, see IANA[32]. | C |
| nextLayerProtocol | Shall contain the contents of the IP *“Protocol”* field as defined in IETF RFC 791 [34] (bits 72..79 in the IP header), and is one of the assigned Internet protocol numbers defined in *IANA* [32]. | M |
| iPv6flowLabel | If the IP addresses in the report are IPv6, this field shall contain the 20-bit IPv6 “Flow Label” as defined in IPv6 IETF RFC 2460 [27] and the *IPV6 Flow Label Specification* IETF RFC 6437 [33]. | C |
| direction | Shall contain the direction of the intercepted packet, and it indicates either “from target” or “to target.” | M |
| pDSRSummaryTrigger | Shall contain the trigger that caused the summary report to be generated, which is one of the following:  a) timer expiry.  b) packet count.  c) byte count. | M |
| firstPacketTimestamp | Shall contain the timestamp that represents the time that the IRI-POI in the UPF detected the first packet in the set represented by this summary. | M |
| lastPacketTimestamp | Shall contain the timestamp that represents the time that the IRI-POI in the UPF detected the last packet in the set represented by this summary. | M |
| packetCount | Shall contain the number of packets detected during the creation of this summary. | M |
| byteCount | Shall contain the number of bytes summed across all packets that belong to this summary. For IPv4 it is the sum of the *“Total Length”* fields across all packets in the summary as defined in *Internet Protocol* IETF RFC 791 [34], while for IPv6 it is the sum of the *“Payload Length*” fields across all packets in the summary as defined in *Internet Protocol, Version 6 (IPv6) Specification*, IETF RFC 2460 [27]. | M |
| NOTE: This is a placeholder value used to fill the pDUSessionID field, given that the UPF does not receive the PDU Session ID used for the session by the SMF, so this information is not available at the UPF. The PDU Session ID can be retrieved by the LEMF from the IRIs generated by the IRI-POI at the SMF and delivered by the MDF2. | | |

##### \*\*\* NEXT CHANGE \*\*\*

#### 6.2.3.9 Packet Data Information Reporting at MDF2

As described in TS 33.127 [5] clause 6.2.3.1, the warrants that do not require the interception of communication contents may require IRI messages that require access to the user plane packets. One such service that requires such a capability is the packet data header information reporting which includes the following two IRI messages:

- Packet Data Header Reporting (PDHR).

- Packet Data Summary Reporting (PDSR).

NOTE: Packet Data Header Reporting is done using the IRI messages containing the PDHeaderReport record and the Packet Data Summary Reporting is done using the IRI messages containing the PDSummaryReport record.

TS 33.127 [5] provides two approaches for the generation of such IRI messages. In approach 1, the IRI-POI present in the UPF based on a trigger received from IRI-TF present in the SMF constructs and delivers the xIRIs to the MDF2. The details of this are described in clause 6.2.3.5.

In approach 2, the CC-TF present in the SMF triggers the CC-POI present in the UPF to deliver the xCC to the MDF3 as described in clause 6.2.3.6. The MDF3 forwards the xCC to the MDF2 over the LI-MDF interface and MDF2 generates the IRI messages containing the PDHeaderReport and PDSummaryReport records from the xCC. The payload of PDHeaderReport and PDSummaryReport records are as described in clause 6.2.3.5.3 and 6.2.3.5.4, table 6.2.3-12 and 6.2.3-13. Note that in approach 2, the MDF2 generates these IRI messages containing PDHeaderReport and PDSummaryReport records without receiving the equivalent xIRI from an IRI-POI. The actions of MDF2, MDF3 and CC-TF in SMF are managed as part of the intercept data provisioned to them over the LI\_X1 interface.

##### \*\*\* END OF CHANGES \*\*\*