



# N4 Interface Compliance with 3GPP Specification (Dec-2018)

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## Feature Summary and Revision History

### Summary Data

*Table 1: Summary Data*

Applicable Product(s) or Functional Area	5G-UPF
Applicable Platform(s)	<ul style="list-style-type: none"><li>• ASR 5500</li><li>• VPC-SI</li></ul>
Feature Default Setting	Enabled - Always-on
Related Changes in this Release	Not Applicable
Related Documentation	Not Applicable

### Revision History

*Table 2: Revision History*

Revision Details	Release
First Introduced.	2020.02.0

## Feature Description

As part of TS 29.244, December 2018 compliance, User Plane Function (UPF) supports the following IEs:

- Averaging Window
- Paging Policy Indicator (PPI)

## Averaging Window

Averaging window IE contains the duration over which the GBR and MBR is calculated. It is sent from SMF to UPF with Create QER or Update QER parent IE, if the default pre-configured value under UPF needs to be overridden.

The following format is used for encoding and decoding of the IE:

	Bits							
Octets	8	7	6	5	4	3	2	1
1 to 2	Type = 157 (decimal)							
3 to 4	Length = n							
5 to 8	Averaging Window							
9 to (n+4)	These octet(s) is/are present only if explicitly specified							

**NOTE:** The value should be in milliseconds.

## Paging Policy Indicator

The SMF sends PPI value in Create QER or Update QER, if UPF requires to set Paging Policy Indicator in outgoing packets.

In the case of Network Triggered Service Request and UPF buffering downlink data packet, the UPF includes the DSCP in TOS (IPv4) / TC (IPv6) value from the IP header of the downlink data packet. It also sends an indication of the corresponding QoS Flow in the data notification message to the SMF. When PPD applies, the SMF determines the Paging Policy Indicator (PPI) based on the DSCP received from the UPF.

In the case of Network Triggered Service Request and SMF buffering downlink data packet, when PPD applies, the SMF determines the PPI based on the DSCP in TOS (IPv4) / TC (IPv6) value from the IP header of the received downlink data packet and identifies the corresponding QoS Flow from the QFI of the received downlink data packet.

The following format is used for encoding and decoding of the IE:

	Bits							
Octets	8	7	6	5	4	3	2	1
1 to 2	Type = 158 (decimal)							

3 to 4	Length = n	
5	Spare	PPI value
6 to (n+4)	These octet(s) is/are present only if explicitly specified	

**NOTE:** The PPI should be encoded as a 3-bit value between 0 and 7.

