**3GPP TSG-CT WG3 Meeting #136 *C3-244503***

**Maastricht, NL, 19 - 23 August, 2024 (Revision of C3-244379)**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.520** | **CR** | **0932** | **rev** | **1** | **Current version:** | **18.6.0** |  |
|  | | | | | | | | |
| *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:*** | Corrections to MovementBehaviour feature applicability | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eNetAE19 | | | | |  | ***Date:*** | | | 2024-07-08 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***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 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-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19) Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | 🡪Missing the GeographicalCoordinate data type in the reuse data type table in clause 5.1.6.1.  🡪Missing the "Movementbehaviour" feature applicability for the reused LocInfoGranularity and GeographicalArea data types in clause 5.2.6.1. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | * Clause 5.1.6.1: added the missing GeographicalCoordinate data type in the reuse data type table. * Clause 5.2.6.1: added the missing "Movementbehaviour" feature applicability for the reused LocInfoGranularity and GeographicalArea data types. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Missing the needed "Movementbehaviour" feature applicability. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.1.6.1, 5.2.6.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 the OpenAPI file. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

**Additional discussion(if needed):**

**Proposed changes:**

\*\*\* 1st Change \*\*\*

#### 5.1.6.1 General

This clause specifies the application data model supported by the API.

Table 5.1.6.1-1 specifies the data types defined for the Nnwdaf\_EventsSubscription service based interface protocol.

Table 5.1.6.1-1: Nnwdaf\_EventsSubscription specific Data Types

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Data type | | Section defined | | Description | | Applicability | |
| AbnormalBehaviour | | 5.1.6.2.15 | | Represents the abnormal behaviour information. | | AbnormalBehaviour | |
| Accuracy | | 5.1.6.3.5 | | Represents the preferred level of accuracy of the analytics. | |  | |
| AccuracyInfo | | 5.1.6.2.89 | | The analytics accuracy information. | | AnalyticsAccuracy | |
| AccuracyReq | | 5.1.6.3.88 | | Represents the analytics accuracy requirement information. | | AnalyticsAccuracy | |
| AdditionalMeasurement | | 5.1.6.2.26 | | Represents additional measurement information. | | AbnormalBehaviour | |
| AddressList | | 5.1.6.2.28 | | Represents a list of IPv4 and/or IPv6 addresses. | | AbnormalBehaviour | |
| AnalyticsContextIdentifier | | 5.1.6.2.43 | | Contains information about available analytics contexts. | | AnaSubTransfer | |
| AnalyticsAccuracyIndication | | 5.1.6.3.37 | | Represents the analytics accuracy indication. | | AnalyticsAccuracy | |
| AnalyticsFeedbackInfo | | 5.1.6.2.105 | | Contains analytics feedback information. | | AnalyticsAccuracy | |
| AnalyticsMetadata | | 5.1.6.3.14 | | Represents the types of analytics metadata information that can be requested. | | Aggregation | |
| AnalyticsMetadataIndication | | 5.1.6.2.36 | | Contains analytics metadata values indicated to be used during analytics generation. | | Aggregation | |
| AnalyticsMetadataInfo | | 5.1.6.2.37 | | Contains analytics metadata information required for analytics aggregation. | | Aggregation | |
| AnalyticsSubscriptionsTransfer | | 5.1.6.2.40 | | Contains information about a request to transfer analytics subscriptions. | | AnaSubTransfer | |
| AnalyticsSubset | | 5.1.6.3.18 | | Analytics subset used to indicate the content of the analytics. | | EneNA | |
| AnySlice | | 5.1.6.3.2 | | Represents the any slices. | |  | |
| ApplicationVolume | | 5.1.6.2.55 | | Application data volume per application Id. | | Dispersion | |
| AppListForUeComm | | 5.1.6.2.64 | | Represents the analytics of the application list used by UE. | | UeCommunicationExt | |
| BwRequirement | | 5.1.6.2.25 | | Represents bandwidth requirement. | | ServiceExperience | |
| ClassCriterion | | 5.1.6.2.51 | | Disperion class criterion. | | Dispersion | |
| CircumstanceDescription | | 5.1.6.2.29 | | Contains the description of a circumstance. | | AbnormalBehaviour | |
| CongestionInfo | | 5.1.6.2.18 | | Represents the congestion information | | UserDataCongestion | |
| CongestionType | | 5.1.6.3.8 | | Identification congestion analytics type. | | UserDataCongestion | |
| ConsumerNfInformation | | 5.1.6.2.49 | | Represents the analytics consumer NF Information. | | AnaSubTransfer | |
| DatasetStatisticalProperty | | 5.1.6.3.15 | | Dataset statistical properties of the data used to generate the analytics. | | Aggregation | |
| DataVolume | | 5.1.6.2.85 | | Indicates a specific data volume transmitted once from UE to AF and/or from AF to UE | | E2eDataVolTransTime | |
| DataVolumeTransferTime | | 5.1.6.2.90 | | Indicates the E2E data volume transfer time and the data volume used to derive the transfer time. | | E2eDataVolTransTime | |
| DeviceType | | 5.1.6.3.31 | | The type of device. | | QoSSustainabilityExt\_eNA | |
| Direction | | 5.1.6.3.39 | | Heading directions of the UE flow in the target area. | | MovementBehaviour | |
| DirectionInfo | | 5.1.6.2.75 | | Represents the UE direction information. | | UeMobilityExt2\_eNA  MovementBehaviour | |
| DispersionClass | | 5.1.6.3.20 | | Dispersion class. | | Dispersion | |
| DispersionCollection | | 5.1.6.2.54 | | Dispersion collections per UE location or or per slice. | | Dispersion | |
| DispersionInfo | | 5.1.6.2.53 | | Dispersion analytics information. | | Dispersion | |
| DispersionRequirement | | 5.1.6.2.50 | | Dispersion analytics requirement. | | Dispersion | |
| DispersionType | | 5.1.6.3.19 | | Dispersion type. | | Dispersion | |
| DispersionOrderingCriterion | | 5.1.6.3.21 | | Ordering criterion for the list of Dispersion. | | Dispersion | |
| DnPerf | | 5.1.6.2.46 | | Represents DN performance information. | | DnPerformance | |
| DnPerfInfo | | 5.1.6.2.45 | | Represents DN performances for the application. | | DnPerformance | |
| DnPerfOrderingCriterion | | 5.1.6.3.25 | | Ordering criterion for the list of DN performance analytics. | | DnPerformance | |
| DnPerformanceReq | | 5.1.6.2.66 | | Represents DN performance analytics requirement. | | DnPerformance | |
| E2eDataVolTransTimeCriterion | | 5.1.6.3.35 | | Ordering criterion for the list of E2E data volume transfer time. | | E2eDataVolTransTime | |
| E2eDataVolTransTimeInfo | | 5.1.6.2.83 | | Represents the E2E data volume transfer time Information. | | E2eDataVolTransTime | |
| E2eDataVolTransTimeReq | | 5.1.6.2.82 | | Represents the E2E data volume transfer time requirement. | | E2eDataVolTransTime | |
| E2eDataVolTransTimePerTS | | 5.1.6.2.84 | | Represents the E2E data volume transfer time requirement per Time slot. | | E2eDataVolTransTime | |
| E2eDataVolTransTimePerUe | | 5.1.6.2.86 | | Represents the E2E data volume transfer time per UE. | | E2eDataVolTransTime | |
| E2eDataVolTransTimeUeList | | 5.1.6.2.87 | | Represents the E2E data volume transfer time per UE list. | | E2eDataVolTransTime | |
| EventNotification | | 5.1.6.2.5 | | Describes Notifications about events that occurred. | |  | |
| EventReportingRequirement | | 5.1.6.2.7 | | Represents the type of reporting the subscription requires. | |  | |
| EventSubscription | | 5.1.6.2.3 | | Represents the subscription to a single event. | |  | |
| Exception | | 5.1.6.2.16 | | Describes the Exception information. | | AbnormalBehaviour | |
| ExceptionId | | 5.1.6.3.6 | | Describes the Exception Id. | | AbnormalBehaviour | |
| ExceptionTrend | | 5.1.6.3.7 | | Describes the Exception Trend. | | AbnormalBehaviour | |
| ExpectedAnalyticsType | | 5.1.6.3.11 | | Represents expected UE analytics type. | | AbnormalBehaviour | |
| FailureEventInfo | | 5.1.6.2.35 | | Contains information on the event for which the subscription is not successful. | |  | |
| GeoDistributionInfo | | 5.1.6.2.76 | | Represents the geographical distribution of the UEs. | | UeMobilityExt\_AIML | |
| GeoLocation | | 5.1.6.2.95 | | Represents a geographic location, using either standard or local coordinates and optionally including the altitude. | | LocAccuracy | |
| IpEthFlowDescription | | 5.1.6.2.27 | | Contains the description of an Uplink and/or Downlink Ethernet flow. | | AbnormalBehaviour | |
| LoadLevelInformation | | 5.1.6.3.2 | | Represents load level information of the network slice and the optionally associated network slice instance. | |  | |
| LocAccuracyInfo | | 5.1.6.2.97 | | Contains Location Accuracy information. | | LocAccuracy | |
| LocAccuracyPerMethod | | 5.1.6.2.98 | | Contains Location Accuracy information per Positioning Method. | | LocAccuracy | |
| LocAccuracyReq | | 5.1.6.2.96 | | Contains Location Accuracy analytics requirements. | | LocAccuracy | |
| LocationInfo | | 5.1.6.2.11 | | Represents UE location information. | | UeMobility | |
| LocInfoGranularity | | 5.1.6.3.32 | | Represents the preferred granularity of location information. | | ServiceExperienceExt2\_eNA  UeMobilityExt2\_eNA  DispersionExt\_eNA  MovementBehaviour | |
| LocationOrientation | | 5.1.6.3.38 | | Represents preferred orientation of location information. | | MovementBehaviour | |
| MatchingDirection | | 5.1.6.3.12 | | Defines the matching direction when crossing a threshold. | | NfLoad, QoSSustainability, UserDataCongestion, NetworkPerformance  Dispersion  RedundantTransmissionExp  WlanPerformance  ServiceExperienceExt  NsiLoadExt  LocAccuracy | |
| MLModelInfo | | 5.1.6.2.69 | | The information of the ML model. | | AnaSubTransfer | |
| ModelInfo | | 5.1.6.2.42 | | Contains information about an ML model. | | AnaSubTransfer | |
| MovBehav | | 5.1.6.2.93 | | Represents the Movement Behaviour information per time slot. | | MovementBehaviour | |
| MovBehavInfo | | 5.1.6.2.92 | | Represents the Movement Behaviour information. | | MovementBehaviour | |
| MovBehavReq | | 5.1.6.2.91 | | Represents the Movement Behaviour analytics requirements. | | MovementBehaviour | |
| NetworkPerfInfo | | 5.1.6.2.23 | | Represents the network performance information. | | NetworkPerformance | |
| NetworkPerfOrderCriterion | | 5.1.6.3.30 | | The ordering criterion for the list of network performance analytics. | | NetworkPerformanceExt\_eNA | |
| NetworkPerfRequirement | | 5.1.6.2.22 | | Represents a network performance requirement. | | NetworkPerformance | |
| NetworkPerfType | | 5.1.6.3.10 | | Represents the network performance types. | | NetworkPerformance | |
| NfLoadLevelInformation | | 5.1.6.2.31 | | Represents load level information of a given NF instance. | | NfLoad | |
| NfStatus | | 5.1.6.2.32 | | Provides the percentage of time spent on various NF states. | | NfLoad | |
| NnwdafEventsSubscription | | 5.1.6.2.2 | | Represents an Individual NWDAF Event Subscription resource. | |  | |
| NnwdafEventsSubscriptionNotification | | 5.1.6.2.4 | | Represents an Individual NWDAF Event Subscription Notification resource. | |  | |
| NumberAverage | | 5.1.6.2.38 | | Represents average and variance information. | | NsiLoadExt | |
| NwdafEvent | | 5.1.6.3.4 | | Describes the NWDAF Events. | |  | |
| NwdafFailureCode | | 5.1.6.3.13 | | Identifies the failure reason. | |  | |
| NotificationMethod | | 5.1.6.3.3 | | Represents the notification methods that can be subscribed. | |  | |
| NsiIdInfo | | 5.1.6.2.33 | | Represents the S-NSSAI and the optionally associated Network Slice Instance Identifier(s). | | ServiceExperience  NsiLoad  DnPerformance | |
| NsiLoadLevelInfo | | 5.1.6.2.34 | | Represents the load level information for an S-NSSAI and the optionally associated network slice instance. | | NsiLoad | |
| ObservedRedundantTransExp | | 5.1.6.2.70 | | Represents the observed Redundant Transmission Experience. | | RedundantTransmissionExp | |
| OutputStrategy | | 5.1.6.3.16 | | Represents the output strategy used for the reporting of the analytics. | | Aggregation | |
| PerfData | | 5.1.6.2.47 | | Represents DN performance information. | | DnPerformance | |
| PfdDeterminationInfo | | 5.1.6.2.73 | | Represents the PFD Determination information. | | PfdDetermination | |
| PrevSubInfo | | 5.1.6.2.68 | | Information of the previous subscription. | | AnaCtxTransfer | |
| QosRequirement | | 5.1.6.2.20 | | Represents the QoS requirements. | | QoSSustainability | |
| QosSustainabilityInfo | | 5.1.6.2.19 | | Represents the QoS Sustainability information. | | QoSSustainability | |
| RankingCriterion | | 5.1.6.2.52 | | Ranking criterion. | | Dispersion | |
| RatFreqInformation | | 5.1.6.2.67 | | Represents the RAT type and/or Frequency information. | | ServiceExperienceExt | |
| RedTransExpOrderingCriterion | | 5.1.6.3.22 | | Ordering criterion for the list of Redundant Transmission Experience. | | RedundantTransmissionExp | |
| RedundantTransmissionExpInfo | | 5.1.6.2.57 | | Redundant transmission experience analytics information. | | RedundantTransmissionExp | |
| RedundantTransmissionExpPerTS | | 5.1.6.2.58 | | Redundant Transmission Experience per Time Slot. | | RedundantTransmissionExp | |
| RedundantTransmissionExpReq | | 5.1.6.2.56 | | Redundant transmission experience analytics requirement. | | RedundantTransmissionExp | |
| RelProxInfo | | 5.1.6.2.100 | | Relative Proximity analytics information. | | RelativeProximity | |
| RelProxReq | | 5.1.6.2.99 | | Relative Proximity analytics requirements. | | RelativeProximity | |
| ResourceUsage | | 5.1.6.2.48 | | The current usage of the virtual resources assigned to the NF instances belonging to a particular network slice instance. | | NsiLoadExt | |
| ResourceUsageRequirement | | 5.1.6.2.81 | | Indicates more requirements when providing resource usage information for network performance. | | NetworkPerformanceExt\_AIML | |
| RetainabilityThreshold | | 5.1.6.2.21 | | Represents a QoS flow retainability threshold. | | QoSSustainability | |
| RoamingInfo | | 5.1.6.2.106 | | Contains information related to roaming analytics. | | RoamingAnalytics | |
| PduSessionInfo | | 5.1.6.2.74 | | Represents combination of PDU Session parameters. | | ServiceExperienceExt2\_eNA | |
| ServiceExperienceInfo | | 5.1.6.2.24 | | Represents the service experience information. | | ServiceExperience | |
| ServiceExperienceType | | 5.1.6.3.24 | | Represents the type of Service Experience Analytics. | | ServiceExperienceExt | |
| SessInactTimerForUeComm | | 5.1.6.2.65 | | Represents the N4 Session inactivity timer. | | UeCommunicationExt | |
| SliceLoadLevelInformation | | 5.1.6.2.6 | | Represents the slices and their load level information. | |  | |
| SpeedThresholdInfo | | 5.1.6.2.94 | | UEs information whose speed is faster than the speed threshold. | | MovementBehaviour | |
| SubscriptionTransferInfo | | 5.1.6.2.41 | | Contains information about subscriptions that are requested to be transferred. | | AnaSubTransfer | |
| SuggestedPfdInfo | | 5.1.6.2.107 | | Represents the suggested PFD information for the application identifier. | | PfdDetermination | |
| TargetUeInformation | | 5.1.6.2.8 | | Identifies the target UE information. | | ServiceExperience  NfLoad  NetworkPerformance  UserDataCongestion  UeMobility  UeCommunication  AbnormalBehaviour  QoSSustainability  Dispersion  RedundantTransmissionExp  WlanPerformance  DnPerformance  PduSesTraffic  E2eDataVolTransTime | |
| TdTraffic | | 5.1.6.2.78 | | Represents traffic that matches or unmatches Traffic Descriptor over the established PDU Session(s). | | PduSesTraffic | |
| TermCause | | 5.1.6.3.26 | | Represents a cause for requesting to terminate an analytics subscription. | | TermRequest | |
| ThresholdLevel | | 5.1.6.2.30 | | Describes a threshold level. | | UserDataCongestion  NfLoad  DnPerformance  ServiceExperienceExt  MovementBehaviour | |
| TimestampedLocation | | 5.1.6.2.103 | | The timestamped locations of the trajectory of the UE. | | RelativeProximity | |
| TimeToCollisionInfo | | 5.1.6.2.104 | | Time To Collision (TTC) information. | | RelativeProximity | |
| TimeUnit | | 5.1.6.3.9 | | Represents the unit for the session active time. | | QoSSustainability | |
| TopApplication | | 5.1.6.2.39 | | Top application that contributes the most to the traffic. | | UserDataCongestionExt | |
| TrafficCharacterization | | 5.1.6.2.14 | | Identifies the detailed traffic characterization. | | UeCommunication | |
| TrafficDirection | | 5.1.6.3.33 | | The traffic direction for the resource usage information. | | NetworkPerformanceExt\_AIML | |
| TrafficInformation | | 5.1.6.2.63 | | Traffic information including UL/DL data rate and/or Traffic volume. | | WlanPerformance | |
| TransferRequestType | | 5.1.6.3.17 | | Represents the type of a request for analytics subscription transfer. | | AnaSubTransfer | |
| UeAnalyticsContextDescriptor | | 5.1.6.2.44 | | Contains information about available UE related analytics contexts. | | AnaSubTransfer | |
| UeCommunication | | 5.1.6.2.13 | | Represents UE communication information. | | UeCommunication | |
| UeCommOrderCriterion | | 5.1.6.3.29 | | The ordering criterion for the list of UE communication analytics. | | UeCommunicationExt\_eNA | |
| UeCommReq | | 5.1.6.2.72 | | UE communication analytics requirement. | | UeCommunicationExt\_eNA | |
| UeMobilityOrderCriterion | | 5.1.6.3.28 | | The ordering criterion for the list of UE mobility analytics. | | UeMobilityExt2\_eNA | |
| UeMobilityReq | | 5.1.6.2.71 | | UE mobility analytics requirement. | | UeMobilityExt2\_eNA | |
| UeMobility | | 5.1.6.2.10 | | Represents UE mobility information. | | UeMobility | |
| UeProximity | | 5.1.6.2.101 | | Observed or Predicted proximity information. | | RelativeProximity | |
| UeTrajectory | | 5.1.6.2.102 | | Relative timestamped UE positions. | | RelativeProximity | |
| PduSesTrafficInfo | | 5.1.6.2.77 | | Represents PDU Session traffic analytics information. | | PduSesTraffic | |
| PduSesTrafficReq | | 5.1.6.2.79 | | Represents PDU Session traffic analytics requirement. | | PduSesTraffic | |
| UserDataConOrderCrit | | 5.1.6.3.27 | | The ordering criterion for the list of User Data Congestion analytics. | | UserDataCongestionExt2\_eNA | |
| UserDataCongestionInfo | | 5.1.6.2.17 | | Represents the user data congestion information. | | UserDataCongestion | |
| ValueExpression | | 5.1.6.3.34 | | Indicates average or peak value of the resource usage for the network performance type | | NetworkPerformanceExt\_AIML | |
| WlanOrderingCriterion | | 5.1.6.3.23 | | Ordering criterion for the list of WLAN performance information. | | WlanPerformance | |
| WlanPerformanceReq | | 5.1.6.2.59 | | WLAN performance analytics requirement. | | WlanPerformance | |
| WlanPerformanceInfo | | 5.1.6.2.60 | | WLAN performance analytics information. | | WlanPerformance | |
| WlanPerSsIdPerformanceInfo | | 5.1.6.2.61 | | WLAN performance information per SSID of WLAN access points deployed in the Area of Interest. | | WlanPerformance | |
| WlanPerTsPerformanceInfo | | 5.1.6.2.62 | | WLAN performance information per Time Slot during the analytics target period. | | WlanPerformance | |
| WlanPerUeIdPerformanceInfo | | 5.1.6.2.80 | | WLAN performance information per UE ID of WLAN access points deployed in the Area of Interest. | | WlanPerformanceExt\_AIML | |

Table 5.1.6.1-2 specifies data types re-used by the Nnwdaf\_EventsSubscription service based interface protocol from other specifications, including a reference to their respective specifications and when needed, a short description of their use within the Nnwdaf service based interface.

Table 5.1.6.1-2: Nnwdaf\_EventsSubscription re-used Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Reference | Comments | Applicability |
| 5Qi | 3GPP TS 29.571 [8] | Identifies the 5G QoS identifier | QoSSustainability  E2eDataVolTransTime |
| AccessType | 3GPP TS 29.571 [8] | Identifies the access type. | ServiceExperienceExt2\_eNA |
| AddrFqdn | 3GPP TS 29.517 [22] | Represents the IP address or FQDN of the Application Server. | DnPerformance  ServiceExperienceExt |
| ApplicationId | 3GPP TS 29.571 [8] | Identifies the application identifier. | ServiceExperience  UeCommunication  AbnormalBehaviour  Dispersion  DnPerformance  PduSesTraffic |
| ArfcnValueNR | 3GPP TS 29.571 [8] | Integer value indicating the ARFCN applicable for a downlink, uplink or bi-directional (TDD) NR global frequency raster.  Minimum = 0. Maximum = 3279165. | ServiceExperienceExt |
| BitRate | 3GPP TS 29.571 [8] | String representing a bit rate that shall be formatted as follows:  pattern: "^\d+(\.\d+)? (bps|Kbps|Mbps|Gbps|Tbps)$"  Examples:  "125 Mbps", "0.125 Gbps", "125000 Kbps". | ServiceExperience  QoSSustainability  WlanPerformance  DnPerformance  E2eDataVolTransTime |
| DateTime | 3GPP TS 29.571 [8] | Identifies the time. |  |
| Dnai | 3GPP TS 29.571 [8] | Identifies a user plane access to one or more DN(s). | ServiceExperience  DnPerformance |
| Dnn | 3GPP TS 29.571 [8] | Identifies the DNN. | ServiceExperience  AbnormalBehaviour  UeCommunication  DnPerformance  SMCCE  PduSesTraffic  E2eDataVolTransTime |
| DomainNameProtocol | 3GPP TS 29.122 [19] | Indicates the additional protocol and protocol field for domain names to be matched. | PfdDetermination |
| DurationSec | 3GPP TS 29.571 [8] |  |  |
| EthFlowDescription | 3GPP TS 29.514 [21] |  | UeCommunication  AbnormalBehaviour |
| ExpectedUeBehaviourData | 3GPP TS 29.503 [23] |  | AbnormalBehaviour |
| Float | 3GPP TS 29.571 [8] |  |  |
| FlowDescription | 3GPP TS 29.514 [21] |  | UeCommunication  AbnormalBehaviour  PduSesTraffic |
| FlowInfo | 3GPP TS 29.122 [19] |  | UserDataCongestionExt |
| GeographicalArea | 3GPP TS 29.522 [32] | Identifies the geographical location (longitude and latitude level). | UeMobilityExt2\_eNA  ServiceExperienceExt2\_eNA  QoSSustainabilityExt\_eNA  MovementBehaviour |
| GeographicalCoordinates | 3GPP TS 29.572 [30] | Represents the geographical coordinates. | MovementBehaviour |
| Gpsi | 3GPP TS 29.571 [8] | The GPSI for an UE. | UserDataCongestionExt  UeMobilityExt\_AIML |
| GroupId | 3GPP TS 29.571 [8] | Identifies a group of UEs. | UeMobility  UeCommunication NetworkPerformance  AbnormalBehaviour  ServiceExperience  Dispersion  RedundantTransmissionExp  WlanPerformance  PduSesTraffic |
| Ipv4Addr | 3GPP TS 29.571 [8] |  |  |
| Ipv6Addr | 3GPP TS 29.571 [8] |  |  |
| LocalOrigin | 3GPP TS 29.572 [30] | Represents a reference point for modelling locations in relation to it. | LocAccuracy |
| NetworkAreaInfo | 3GPP TS 29.554 [18] | Identifies the network area. | ServiceExperience  QoSSustainability  AbnormalBehaviour  UeMobility  UserDataCongestion  NetworkPerformance  NsiLoadExt  NfLoadExt  Dispersion  RedundantTransmissionExp  WlanPerformance  UeCommunication  DnPerformance  PduSesTraffic  E2eDataVolTransTime  MovementBehaviour |
| NfInstanceId | 3GPP TS 29.571 [8] | Identifies an NF instance. | NfLoad |
| NfSetId | 3GPP TS 29.571 [8] | Identifies an NF Set instance. | NfLoad |
| NFType | 3GPP TS 29.510 [12] | Indentifies a type of NF. | NfLoad |
| NsiId | 3GPP TS 29.531 [24] | Identifies a Network Slice Instance. | ServiceExperience  NsiLoad  DnPerformance |
| PacketDelBudget | 3GPP TS 29.571 [8] |  | QoSSustainability  DnPerformance  RedundantTransExpExt\_eNA |
| PacketErrRate | 3GPP TS 29.571 [8] |  | QoSSustainability |
| PacketLossRate | 3GPP TS 29.517 [22] | Indicates Packet Loss Rate. | DnPerformance  RedundantTransExpExt\_eNA |
| PduSessionId | 3GPP TS 29.571 [8] | Identifies PDU Session |  |
| PduSessionType | 3GPP TS 29.571 [8] | Identifies the PDU Session Type. | ServiceExperienceExt2\_eNA |
| PlmnIdNid | 3GPP TS 29.571 [8] | PLMN identifier. | RoamingAnalytics |
| Point | 3GPP TS 29.572 [30] | Represents a location in geographical co-ordinates. | LocAccuracy |
| PointAltitude | 3GPP TS 29.572 [30] | Represents a location including an altitude in geographical co-ordinates. | LocAccuracy |
| PositioningMethod | 3GPP TS 29.572 [30] | Represents a positioning method. | LocAccuracy |
| ProblemDetails | 3GPP TS 29.571 [8] | Used in error responses to provide more detailed information about an error. |  |
| QosResourceType | 3GPP TS 29.571 [8] | Identifies the resource type in QoS characteristics. | QoSSustainability |
| RatType | 3GPP TS 29.571 [8] | Identifies the RAT type. | ServiceExperienceExt |
| RedirectResponse | 3GPP TS 29.571 [8] | Contains redirection related information. | ES3XX |
| RelativeCartesianLocation | 3GPP TS 29.572 [30] | Represents distances from a reference point. | LocAccuracy |
| ReportingInformation | 3GPP TS 29.523 [20] | Represents the type of reporting the subscription requires. |  |
| SamplingRatio | 3GPP TS 29.571 [8] |  |  |
| ScheduledCommunicationTime | 3GPP TS 29.122 [19] |  | UeMobility UeCommunication |
| SmcceInfo | 5.2.6.2.12 | Represents the analytics of Session Management Congestion Control Experience information. | SMCCE |
| Snssai | 3GPP TS 29.571 [8] | Identifies the S-NSSAI (Single Network Slice Selection Assistance Information). |  |
| SscMode | 3GPP TS 29.571 [8] | Identifies te SSC Mode of the PDU Session. | ServiceExperienceExt2\_eNA |
| Supi | 3GPP TS 29.571 [8] | The SUPI for an UE. | ServiceExperience,  NfLoad  NetworkPerformance,  UserDataCongestion  UeMobility  UeCommunication  AbnormalBehaviour  Dispersion  RedundantTransmissionExp  WlanPerformance  PduSesTraffic |
| SupportedFeatures | 3GPP TS 29.571 [8] | Used to negotiate the applicability of the optional features defined in table 5.1.8-1. |  |
| SvcExperience | 3GPP TS 29.517 [22] |  | ServiceExperience |
| Tai | 3GPP TS 29.571 [8] | Tracking Area Information. | AnaSubTransfer |
| TimeWindow | 3GPP TS 29.122 [19] |  |  |
| Uinteger | 3GPP TS 29.571 [8] | Unsigned Integer, i.e. only value 0 and integers above 0 are permissible. |  |
| UpfInformation | 3GPP TS 29.508 [29] | The information of the UPF serving the UE. | ServiceExperienceExt  DnPerformance |
| Uri | 3GPP TS 29.571 [8] |  |  |
| UserLocation | 3GPP TS 29.571 [8] |  | UeMobility  Dispersion |
| VelocityEstimate | 3GPP TS 29.572 [30] | Velocity estimate | QoSSustainabilityExt\_eNA |
| Volume | 3GPP TS 29.122 [19] |  | UeCommunication  AbnormalBehaviour  Dispersion  WlanPerformance  PduSesTraffic |

\*\*\* 2nd Change \*\*\*

#### 5.2.6.1 General

This clause specifies the application data model supported by the API.

Table 5.2.6.1-1 specifies the data types defined for the Nnwdaf\_AnalyticsInfo service based interface protocol.

Table 5.2.6.1-1: Nnwdaf\_AnalyticsInfo specific Data Types

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Data type | | Section defined | Description | | Applicability | |
| AdditionInfoAnalyticsInfoRequest | 5.2.6.2.5 | | Contains more details (not only the ProblemDetails) in case an Nnwdaf\_AnalyticsInfo request is rejected. | | EneNA | |
| AdrfDataType | 5.2.6.3.5 | | Represents a type of data that is stored in the ADRF. | | AnaCtxTransfer | |
| AnalyticsAccuracyInfo | 5.2.6.2.18 | | Analytics Accuracy related information needs to be transferred. | | EnAnaCtxTransfer | |
| AnalyticsData | 5.2.6.2.2 | | Describes analytics with parameters indicated in the request. | |  | |
| ContextData | 5.2.6.2.6 | | Contains context information related to analytics subscriptions corresponding with one or more context identifiers. | | AnaCtxTransfer | |
| ContextElement | 5.2.6.2.7 | | Contains context information corresponding with a specific context identifier. | | AnaCtxTransfer | |
| ContextIdList | 5.2.6.2.8 | | Contains list of context identifiers of context information of analytics subscriptions. | | AnaCtxTransfer | |
| ContextType | 5.2.6.3.4 | | Identfies the type of analytics context information. | | AnaCtxTransfer | |
| EventFilter | 5.2.6.2.3 | | Represents the event filters used to identify the requested analytics. | |  | |
| EventId | 5.2.6.3.3 | | Describes the type of analytics. | |  | |
| GroundTruthInfo | 5.2.6.2.19 | | The ground truth information used for the accuracy information computation. | | EnAnaCtxTransfer | |
| HistoricalData | 5.2.6.2.9 | | Contains historical data related to an analytics subscription. | | AnaCtxTransfer | |
| MlModelAccuracyInfo | 5.2.6.2.20 | | The ML Model Accuracy Subscription Information needs to be transferred. | | EnAnaCtxTransfer | |
| NetworkPerfReq | 5.2.6.2.16 | | Represents a network performance requirement. | | NetworkPerformanceExt\_eNA | |
| ProblemDetailsAnalyticsInfoRequest | 5.2.6.4.1 | | Data type that extends ProblemDetails. | | EneNA | |
| RequestedContext | 5.2.6.2.11 | | Contains types of analytics context information. | | AnaCtxTransfer | |
| ResourceUsageRequPerNwPerfType | 5.2.6.2.17 | | Indicates more requirements per network performance type when providing resource usage information for network performance. | | NetworkPerformanceExt\_AIML | |
| SmcceInfo | 5.2.6.2.12 | | Represents the analytics of Session Management congestion control experience information. | | SMCCE | |
| SmcceUeList | 5.2.6.2.13 | | Represents the List of UEs classified based on experience level of Session Management congestion control. | | SMCCE | |
| SpecificAnalyticsSubscription | 5.2.6.2.10 | | Represents an existing subscription for a specific type of analytics to a specific NWDAF. | | AnaCtxTransfer | |
| SpecificDataSubscription | 5.2.6.2.14 | | Represents an existing data collection subscription to a specific data source NF. | | AnaCtxTransfer | |
| UserDataCongestReq | 5.2.6.2.15 | | Represents the user data congestion requirements. | | UserDataCongestionExt2\_eNA | |

Table 5.2.6.1-2 specifies data types re-used by the Nnwdaf\_AnalyticsInfo service based interface protocol from other specifications, including a reference to their respective specifications and when needed, a short description of their use within the Nnwdaf service based interface.

Re-used data types of clause 5.1.6 refer here to requests instead of subscriptions.

Table 5.2.6.1-2: Nnwdaf\_AnalyticsInfo re-used Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Reference | Comments | Applicability |
| AbnormalBehaviour | 5.1.6.2.15 | Represents the abnormal behaviour information. | AbnormalBehaviour |
| AccuracyInfo | 5.2.6.2.83 | The analytics accuracy information. | AnalyticsAccuracy |
| AccuracyReq | 5.1.6.2.88 | Represents the analytics accuracy requirement information. | AnalyticsAccuracy |
| AnalyticsContextIdentifier | 5.1.6.2.43 | Contains information about the available analytics contexts. | AnaCtxTransfer |
| AnalyticsMetadataInfo | 5.1.6.2.37 | Contains analytics metadata information required for analytics aggregation. | Aggregation |
| AnalyticsSubset | 5.1.6.3.18 | Contains information about the analytics subsets provided in the subscription request. | EneNA |
| AnySlice | 5.1.6.3.2 |  |  |
| ApplicationId | 3GPP TS 29.571 [8] | Identifies the application. | ServiceExperience  UeCommunication  AbnormalBehaviour  DnPerformance  PfdDetermination  E2eDataVolTransTime |
| BwRequirement | 5.1.6.2.25 |  | ServiceExperience |
| DataNotification | 3GPP TS 29.575 [27] | Describes Notifications about data collection events that occurred. | EneNA |
| DataSubscription | 3GPP TS 29.575 [27] | Represents data subscription from data source (e.g. AMF, SMF, UDM, NEF, AF). | EneNA  EnAnaCtxTransfer |
| DateTime | 3GPP TS 29.571 [8] | Identifies the time. |  |
| DispersionRequirement | 5.1.6.2.50 | Dispersion analytics requirement. | Dispersion |
| DispersionInfo | 5.1.6.2.53 | Dispersion analytics information. | Dispersion |
| Dnai | 3GPP TS 29.571 [8] | Identifies a user plane access to one or more DN(s). | ServiceExperience  DnPerformance |
| Dnn | 3GPP TS 29.571 [8] | Identifies the DNN. | ServiceExperience  AbnormalBehaviour  UeCommunication  SMCCE  DnPerformance  PfdDetermination  PduSesTraffic  E2eDataVolTransTime |
| DnPerfInfo | 5.1.6.2.45 | Represents DN performance information | DnPerformance |
| DnPerformanceReq | 5.1.6.2.66 | Represents the DN performance requirements. | DnPerformance |
| DurationSec | 3GPP TS 29.571 [8] |  |  |
| EventNotification | 5.1.6.2.5 | Describes Notifications about analytics events that occurred. | AnaCtxTransfer |
| EventReportingRequirement | 5.1.6.2.7 |  |  |
| ExceptionId | 5.1.6.3.6 |  | AbnormalBehaviour |
| ExpectedUeBehaviourData | 3GPP TS 29.503 [23] |  | AbnormalBehaviour |
| ExpectedAnalyticsType | 5.1.6.3.11 |  | AbnormalBehaviour |
| GeographicalArea | 3GPP TS 29.522 [32] | Identifies the geographical location (longitude and latitude level). | UeMobilityExt2\_eNA  ServiceExperienceExt2\_eNA  QoSSustainExt\_eNA  MovementBehaviour |
| GeoLocation | 5.1.6.2.95 | Represents a geographic location, potentially using local coordinates and optionally including the altitude. | LocAccuracy |
| LocAccuracyInfo | 5.1.6.2.97 | Contains Location Accuracy information. | LocAccuracy |
| LocAccuracyReq | 5.1.6.2.96 | Contains Location Accuracy analytics requirements. | LocAccuracy |
| LocInfoGranularity | 5.1.6.3.32 | Represents the preferred granularity of location information. | ServiceExperienceExt2\_eNA  UeMobilityExt2\_eNA  DispersionExt\_eNA  MovementBehaviour |
| LocationOrientation | 5.1.6.3.38 | Represent preferred orientation of location information | MovementBehaviour |
| MatchingDirection | 5.1.6.3.12 | The matching direction. | UserDataCongestionExt2\_eNA  NetworkPerformanceExt |
| MLModelAccuracyInfo | 5.6.6.2.5 | Represents the subscription information for ML model accuracy information. | EnAnaCtxTransfer |
| ModelInfo | 5.1.6.2.42 | The information of the ML models. | AnaCtxTransfer |
| MovBehavInfo | 5.1.6.2.91 | Represents the Movement Behaviour information. | MovementBehaviour |
| MovBehavReq | 5.1.6.2.90 | Represents the Movement Behaviour analytics requirements | MovementBehaviour |
| NetworkAreaInfo | 3GPP TS 29.554 [18] | The network area information. | UeMobility  UeCommunication  NetworkPerformance  QoSSustainability  ServiceExperience  UserDataCongestion  AbnormalBehaviour  NsiLoadExt  Dispersion  RedundantTransmissionExp  WlanPerformance  DnPerformance  NfLoadExt  E2eDataVolTransTime  MovementBehaviour |
| NetworkPerfInfo | 5.1.6.2.23 | Represents network performance information. | NetworkPerformance |
| NetworkPerfOrderCriterion | 5.1.6.3.30 | Represents a network performance requirement. | NetworkPerformanceExt\_eNA |
| NetworkPerfType | 5.1.6.3.10 | Represents the network performance types. | NetworkPerformance |
| NfLoadLevelInformation | 5.1.6.2.31 | Represents load level information of a given NF instance. | NfLoad |
| NfInstanceId | 3GPP TS 29.571 [8] | Identifies an NF instance | NfLoad |
| NfSetId | 3GPP TS 29.571 [8] | Identifies an NF Set instance. | NfLoad |
| NFType | 3GPP TS 29.510 [12] | Indentifies a type of NF. | NfLoad |
| NsiIdInfo | 5.1.6.2.33 | Identify the S-NSSAI and the associated Network Slice Instance(s). | ServiceExperience  NsiLoad  DnPerformance |
| NsiLoadLevelInfo | 5.1.6.2.34 | Represents the load level information for an S-NSSAI and the associated network slice instance. | NsiLoad |
| NnwdafEventsSubscription | 5.1.6.2.2 | Represents an Individual NWDAF Event Subscription resource. | AnaCtxTransfer |
| PfdDeterminationInfo | 5.1.6.2.73 | Represents PFD Determination information. | PfdDetermination |
| ProblemDetails | 3GPP TS 29.571 [8] | Used in error responses to provide more detailed information about an error. |  |
| QosRequirement | 5.1.6.2.20 |  | QoSSustainability  E2eDataVolTransTime |
| QosSustainabilityInfo | 5.1.6.2.19 |  | QoSSustainability |
| RatFreqInformation | 5.1.6.2.67 | Represents the RAT type and/or Frequency information | ServiceExperienceExt |
| RedundantTransmissionExpInfo | 5.1.6.2.57 | Redundant transmission experience analytics information. | RedundantTransmissionExp |
| RedundantTransmissionExpReq | 5.1.6.2.56 | Redundant transmission experience analytics requirement. | RedundantTransmissionExp |
| PduSessionInfo | 5.1.6.2.74 | Represents combination of PDU Session parameters. | ServiceExperienceExt2\_eNA |
| RelProxInfo | 5.1.6.2.100 | Relative Proximity analytics information. | RelativeProximity |
| RelProxReq | 5.1.6.2.99 | Relative Proximity analytics requirements. | RelativeProximity |
| ResourceUsageRequirement | 5.1.6.2.81 | Indicates more requirements per network performance type when providing resource usage information for network performance. | NetworkPerformanceExt\_AIML |
| RoamingInfo | 5.1.6.2.106 | Contains information related to roaming analytics. | RoamingAnalytics |
| ServiceExperienceInfo | 5.1.6.2.24 |  | ServiceExperience |
| Supi | 3GPP TS 29.571 [8] | Identifies the UE. | ServiceExperience,  NfLoad  NetworkPerformance  UserDataCongestion  UeMobility  UeCommunication  AbnormalBehaviour  SMCCE  Dispersion  RedundantTransmissionExp  WlanPerformance  E2eDataVolTransTime |
| SupportedFeatures | 3GPP TS 29.571 [8] | Used to negotiate the applicability of the optional features defined in table 5.2.8-1. |  |
| Snssai | 3GPP TS 29.571 [8] |  |  |
| SliceLoadLevelInformation | 5.1.6.2.6 |  |  |
| TargetUeInformation | 5.1.6.2.8 | Identifies the target UE information. | ServiceExperience  NfLoad  NetworkPerformance  UserDataCongestion  UeMobility  UeCommunication  AbnormalBehaviour  QoSSustainability  Dispersion  RedundantTransmissionExp  WlanPerformance  SMCCE  DnPerformance |
| UeCommunication | 5.1.6.2.13 |  | UeCommunication |
| UeCommReq | 5.1.6.2.72 | UE communication analytics requirement. | UeCommunicationExt\_eNA |
| UeMobility | 5.1.6.2.10 |  | UeMobility |
| UeMobilityReq | 5.1.6.2.71 | UE mobility analytics requirement. | UeMobilityExt2\_eNA |
| Uinteger | 3GPP TS 29.571 [8] | Unsigned Integer, i.e. only value 0 and integers above 0 are permissible. |  |
| UpfInformation | 3GPP TS 29.508 [29] | The information of the UPF serving the UE. | ServiceExperienceExt  DnPerformance |
| PduSesTrafficInfo | 5.1.6.2.77 | Represents PDU Session traffic analytics information. | PduSesTraffic |
| PduSesTrafficReq | 5.1.6.2.79 | Represents PDU Session traffic analytics requirement. | PduSesTraffic |
| UserDataCongestionInfo | 5.1.6.2.17 |  | UserDataCongestion |
| UserDataConOrderCrit | 5.1.6.2.15 | The ordering criterion for the list of User Data Congestion analytics. | UserDataCongestionExt2\_eNA |
| WlanPerformanceInfo | 5.1.6.2.60 | WLAN performance analytics information. | WlanPerformance |
| WlanPerformanceReq | 5.1.6.2.59 | WLAN performance analytics requirement. | WlanPerformance |
| E2eDataVolTransTimeInfo | 5.1.6.2.82 | E2E data volume transfer time | E2eDataVolTransTime |
| E2eDataVolTransTimeReq | 5.1.6.2.83 | E2E data volume transfer time requirement | E2eDataVolTransTime |

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