Nlmf_Location

The Nlmf_Location service allows an NF to request location determination (including current geodetic and optionally local and/or civic location) for a target UE or to request periodic or triggered location for a target UE.

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OpenAPI

OpenAPI Version: 3.0.0

Info

```
Version: '1.1.1'

Title: 'LMF Location'

Description: |

  LMF Location Service.

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```

Servers

URL: '{apiRoot}/nlmf-loc/v1'

Variables:

API Root:

Default: https://example.com

Description: apiRoot as defined in clause 4.4 of 3GPP TS 29.501

Security

- {}
- oAuth2ClientCredentials:
  - nlmf-loc

Paths

/determine-location:

Method: Post

Summary: Determine Location of an UE

Operation ID: DetermineLocation

Tags:

- Determine Location

Request Body:

Content:

Application/JSON:

Schema:

```
        Reference: '#/components/schemas/InputData'
    Multipart/Related: # message with binary body part(s)
      Schema:
        Type: object
        Properties: # Request parts
          JSON Data:
            Reference: '#/components/schemas/InputData'
          binaryDataLppMessage:
            Type: string
            Format: binary
      Encoding:
        JSON Data:
          Content Type: application/json
        binaryDataLppMessage:
          Content Type: application/vnd.3gpp.lpp
          Headers:
            Content ID:
              Schema:
                Type: string
  Required/Optional: true
Responses:
  '200':
    Description: Expected response to a valid request
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/LocationData'
  '204':
    Description: Expected response for MO-LR requesting location assistance data.
```

```
      '400':
        Reference: 'TS29571_CommonData.yaml#/components/responses/400'
      '401':
        Reference: 'TS29571_CommonData.yaml#/components/responses/401'
      '403':
        Reference: 'TS29571_CommonData.yaml#/components/responses/403'
      '404':
        Reference: 'TS29571_CommonData.yaml#/components/responses/404'
      '411':
        Reference: 'TS29571_CommonData.yaml#/components/responses/411'
      '413':
        Reference: 'TS29571_CommonData.yaml#/components/responses/413'
      '415':
        Reference: 'TS29571_CommonData.yaml#/components/responses/415'
      '429':
        Reference: 'TS29571_CommonData.yaml#/components/responses/429'
      '500':
        Reference: 'TS29571_CommonData.yaml#/components/responses/500'
      '503':
        Reference: 'TS29571_CommonData.yaml#/components/responses/503'
      '504':
        Reference: 'TS29571_CommonData.yaml#/components/responses/504'
      Default:
        Reference: 'TS29571_CommonData.yaml#/components/responses/default'
  Callbacks:
    EventNotify:
      '{$request.body#/hgmlcCallBackURI}':
        Method: Post
```

```
Request Body:
  Description: UE Event Notification
  Content:
    Application/JSON:
      Schema:
        Reference: '#/components/schemas/EventNotifyData'
Responses:
  '204':
    Description: Expected response to a valid notification
  '400':
    Reference: 'TS29571_CommonData.yaml#/components/responses/400'
  '401':
    Reference: 'TS29571_CommonData.yaml#/components/responses/401'
  '403':
    Reference: 'TS29571_CommonData.yaml#/components/responses/403'
  '404':
    Reference: 'TS29571_CommonData.yaml#/components/responses/404'
  '411':
    Reference: 'TS29571_CommonData.yaml#/components/responses/411'
  '413':
    Reference: 'TS29571_CommonData.yaml#/components/responses/413'
  '415':
    Reference: 'TS29571_CommonData.yaml#/components/responses/415'
  '429':
    Reference: 'TS29571_CommonData.yaml#/components/responses/429'
  '500':
    Reference: 'TS29571_CommonData.yaml#/components/responses/500'
  '503':
    Reference: 'TS29571_CommonData.yaml#/components/responses/503'
```

```
        '504':
          Reference: 'TS29571_CommonData.yaml#/components/responses/504'
        Default:
          Reference: 'TS29571_CommonData.yaml#/components/responses/default'
```

Components

```
securitySchemes:
  oAuth2ClientCredentials:
    Type: oauth2
    Flows:
      clientCredentials:
        tokenUrl: '{nrfApiRoot}/oauth2/token'
        scopes:
          nlmf-loc: Access to the Nlmf_Location API
schemas:
#
# COMPLEX TYPES
#
  InputData:
    Type: object
    not:
      Required: [ ecgi, ncgi ]
    Properties:
      externalClientType:
        Reference: '#/components/schemas/ExternalClientType'
      correlationID:
        Reference: '#/components/schemas/CorrelationID'
      amfId:
```

```
    Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
  locationQoS:
    Reference: '#/components/schemas/LocationQoS'
  supportedGADShapes:
    Type: array
    Items:
      Reference: '#/components/schemas/SupportedGADShapes'
    minItems: 1
  supi:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Supi'
  pei:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Pei'
  gpsi:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Gpsi'
  ecgi:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Ecgi'
  ecgiOnSecondNode:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Ecgi'
  ncgi:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Ncgi'
  ncgiOnSecondNode:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Ncgi'
  priority:
    Reference: '#/components/schemas/LcsPriority'
  velocityRequested:
    Reference: '#/components/schemas/VelocityRequested'
  ueLcsCap:
    Reference: '#/components/schemas/UeLcsCapability'
```

```
      lcsServiceType:
        Reference: '#/components/schemas/LcsServiceType'
      ldrType:
        Reference: '#/components/schemas/LdrType'
      hgmlcCallBackURI:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
      vgmlcAddress:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
      ldrReference:
        Reference: '#/components/schemas/LdrReference'
      periodicEventInfo:
        Reference: '#/components/schemas/PeriodicEventInfo'
      areaEventInfo:
        Reference: '#/components/schemas/AreaEventInfo'
      motionEventInfo:
        Reference: '#/components/schemas/MotionEventInfo'
      reportingAccessTypes:
        Reference: '#/components/schemas/ReportingAccessTypes'
      ueConnectivityStates:
        Reference: '#/components/schemas/UeConnectivityState'
      ueLocationServiceInd:
        Reference: '#/components/schemas/UeLocationServiceInd'
      lppMessage:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/RefToBinaryData'

  LocationData:
    Type: object
    Required:
      - locationEstimate
```

```
Properties:
  locationEstimate:
    Reference: '#/components/schemas/GeographicArea'
  accuracyFulfilmentIndicator:
    Reference: '#/components/schemas/AccuracyFulfilmentIndicator'
  ageOfLocationEstimate:
    Reference: '#/components/schemas/AgeOfLocationEstimate'
  velocityEstimate:
    Reference: '#/components/schemas/VelocityEstimate'
  civicAddress:
    Reference: '#/components/schemas/CivicAddress'
  positioningDataList:
    Type: array
    Items:
      Reference: '#/components/schemas/PositioningMethodAndUsage'
    minItems: 1
  gnssPositioningDataList:
    Type: array
    Items:
      Reference: '#/components/schemas/GnssPositioningMethodAndUsage'
    minItems: 1
  ecgi:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Ecgi'
  ncgi:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Ncgi'
  altitude:
    Reference: '#/components/schemas/Altitude'
  barometricPressure:
    Reference: '#/components/schemas/BarometricPressure'
```

```
    servingLMFIdentification:
      Reference: '#/components/schemas/LMFIdentification'
GeographicArea:
  anyOf:
    - $ref: '#/components/schemas/Point'
    - $ref: '#/components/schemas/PointUncertaintyCircle'
    - $ref: '#/components/schemas/PointUncertaintyEllipse'
    - $ref: '#/components/schemas/Polygon'
    - $ref: '#/components/schemas/PointAltitude'
    - $ref: '#/components/schemas/PointAltitudeUncertainty'
    - $ref: '#/components/schemas/EllipsoidArc'
GADShape:
  Type: object
  Required:
    - shape
  Properties:
    shape:
      Reference: '#/components/schemas/SupportedGADShapes'
  discriminator:
    propertyName: shape
    mapping:
      POINT: '#/components/schemas/Point'
      POINT_UNCERTAINTY_CIRCLE: '#/components/schemas/PointUncertaintyCircle'
      POINT_UNCERTAINTY_ELLIPSE: '#/components/schemas/PointUncertaintyEllipse'
      POLYGON: '#/components/schemas/Polygon'
      POINT_ALTITUDE: '#/components/schemas/PointAltitude'
      POINT_ALTITUDE_UNCERTAINTY: '#/components/schemas/PointAltitudeUncertainty'
      ELLIPSOID_ARC: '#/components/schemas/EllipsoidArc'
Point:
```

```
    allOf:
      - $ref: '#/components/schemas/GADShape'
      - type: object
        Required:
          - point
        Properties:
          point:
            Reference: '#/components/schemas/GeographicalCoordinates'
  PointUncertaintyCircle:
    allOf:
      - $ref: '#/components/schemas/GADShape'
      - type: object
        Required:
          - point
          - uncertainty
        Properties:
          point:
            Reference: '#/components/schemas/GeographicalCoordinates'
          uncertainty:
            Reference: '#/components/schemas/Uncertainty'
  PointUncertaintyEllipse:
    allOf:
      - $ref: '#/components/schemas/GADShape'
      - type: object
        Required:
          - point
          - uncertaintyEllipse
          - confidence
        Properties:
          point:
```

```
        Reference: '#/components/schemas/GeographicalCoordinates'
      uncertaintyEllipse:
        Reference: '#/components/schemas/UncertaintyEllipse'
      confidence:
        Reference: '#/components/schemas/Confidence'
Polygon:
  allOf:
    - $ref: '#/components/schemas/GADShape'
    - type: object
      Required:
        - pointList
      Properties:
        pointList:
          Reference: '#/components/schemas/PointList'
PointAltitude:
  allOf:
    - $ref: '#/components/schemas/GADShape'
    - type: object
      Required:
        - point
        - altitude
      Properties:
        point:
          Reference: '#/components/schemas/GeographicalCoordinates'
        altitude:
          Reference: '#/components/schemas/Altitude'
PointAltitudeUncertainty:
  allOf:
    - $ref: '#/components/schemas/GADShape'
    - type: object
```

```
      Required:
        - point
        - altitude
        - uncertaintyEllipse
        - uncertaintyAltitude
        - confidence
      Properties:
        point:
          Reference: '#/components/schemas/GeographicalCoordinates'
        altitude:
          Reference: '#/components/schemas/Altitude'
        uncertaintyEllipse:
          Reference: '#/components/schemas/UncertaintyEllipse'
        uncertaintyAltitude:
          Reference: '#/components/schemas/Uncertainty'
        confidence:
          Reference: '#/components/schemas/Confidence'
  EllipsoidArc:
    allOf:
      - $ref: '#/components/schemas/GADShape'
      - type: object
        Required:
          - point
          - innerRadius
          - uncertaintyRadius
          - offsetAngle
          - includedAngle
          - confidence
        Properties:
          point:
```

```
          Reference: '#/components/schemas/GeographicalCoordinates'
        innerRadius:
          Reference: '#/components/schemas/InnerRadius'
        uncertaintyRadius:
          Reference: '#/components/schemas/Uncertainty'
        offsetAngle:
          Reference: '#/components/schemas/Angle'
        includedAngle:
          Reference: '#/components/schemas/Angle'
        confidence:
          Reference: '#/components/schemas/Confidence'
    GeographicalCoordinates:
      Type: object
      Required:
        - lon
        - lat
      Properties:
        lon:
          Type: number
          format: double
          Minimum: -180
          Maximum: 180
        lat:
          Type: number
          format: double
          Minimum: -90
          Maximum: 90
    UncertaintyEllipse:
      Type: object
```

```
    Required:
      - semiMajor
      - semiMinor
      - orientationMajor
    Properties:
      semiMajor:
        Reference: '#/components/schemas/Uncertainty'
      semiMinor:
        Reference: '#/components/schemas/Uncertainty'
      orientationMajor:
        Reference: '#/components/schemas/Orientation'
  PointList:
    Type: array
    Items:
      Reference: '#/components/schemas/GeographicalCoordinates'
    minItems: 3
    maxItems: 15
  LocationQoS:
    Type: object
    Properties:
      hAccuracy:
        Reference: '#/components/schemas/Accuracy'
      vAccuracy:
        Reference: '#/components/schemas/Accuracy'
      verticalRequested:
        Type: boolean
      responseTime:
        Reference: '#/components/schemas/ResponseTime'
      lcsQosClass:
```

```
      Reference: '#/components/schemas/LcsQosClass'
PositioningMethodAndUsage:
  Type: object
  Required:
    - method
    - mode
    - usage
  Properties:
    method:
      Reference: '#/components/schemas/PositioningMethod'
    mode:
      Reference: '#/components/schemas/PositioningMode'
    usage:
      Reference: '#/components/schemas/Usage'
    methodCode:
      Type: integer
      Minimum: 16
      Maximum: 31
GnssPositioningMethodAndUsage:
  Type: object
  Required:
    - mode
    - gnss
    - usage
  Properties:
    mode:
      Reference: '#/components/schemas/PositioningMode'
    gnss:
      Reference: '#/components/schemas/GnssId'
```

```
    usage:
      Reference: '#/components/schemas/Usage'
CivicAddress:
  Type: object
  Properties:
    country:
      Type: string
    A1:
      Type: string
    A2:
      Type: string
    A3:
      Type: string
    A4:
      Type: string
    A5:
      Type: string
    A6:
      Type: string
    PRD:
      Type: string
    POD:
      Type: string
    STS:
      Type: string
    HNO:
      Type: string
    HNS:
      Type: string
```

LMK:

  Type: string

LOC:

  Type: string

NAM:

  Type: string

PC:

  Type: string

BLD:

  Type: string

UNIT:

  Type: string

FLR:

  Type: string

ROOM:

  Type: string

PLC:

  Type: string

PCN:

  Type: string

POBOX:

  Type: string

ADDCODE:

  Type: string

SEAT:

  Type: string

RD:

  Type: string

```
    RDSEC:
      Type: string
    RDBR:
      Type: string
    RDSUBBR:
      Type: string
    PRM:
      Type: string
    POM:
      Type: string
VelocityEstimate:
  oneOf:
    - $ref: '#/components/schemas/HorizontalVelocity'
    - $ref: '#/components/schemas/HorizontalWithVerticalVelocity'
    - $ref: '#/components/schemas/HorizontalVelocityWithUncertainty'
    - $ref: '#/components/schemas/HorizontalWithVerticalVelocityAndUncertainty'
HorizontalVelocity:
  Type: object
  Required:
    - hSpeed
    - bearing
  Properties:
    hSpeed:
      Reference: '#/components/schemas/HorizontalSpeed'
    bearing:
      Reference: '#/components/schemas/Angle'
HorizontalWithVerticalVelocity:
  Type: object
  Required:
    - hSpeed
```

```
    - bearing
    - vSpeed
    - vDirection
  Properties:
    hSpeed:
      Reference: '#/components/schemas/HorizontalSpeed'
    bearing:
      Reference: '#/components/schemas/Angle'
    vSpeed:
      Reference: '#/components/schemas/VerticalSpeed'
    vDirection:
      Reference: '#/components/schemas/VerticalDirection'
HorizontalVelocityWithUncertainty:
  Type: object
  Required:
    - hSpeed
    - bearing
    - hUncertainty
  Properties:
    hSpeed:
      Reference: '#/components/schemas/HorizontalSpeed'
    bearing:
      Reference: '#/components/schemas/Angle'
    hUncertainty:
      Reference: '#/components/schemas/SpeedUncertainty'
HorizontalWithVerticalVelocityAndUncertainty:
  Type: object
  Required:
    - hSpeed
```

```
    - bearing
    - vSpeed
    - vDirection
    - hUncertainty
    - vUncertainty
  Properties:
    hSpeed:
      Reference: '#/components/schemas/HorizontalSpeed'
    bearing:
      Reference: '#/components/schemas/Angle'
    vSpeed:
      Reference: '#/components/schemas/VerticalSpeed'
    vDirection:
      Reference: '#/components/schemas/VerticalDirection'
    hUncertainty:
      Reference: '#/components/schemas/SpeedUncertainty'
    vUncertainty:
      Reference: '#/components/schemas/SpeedUncertainty'
UeLcsCapability:
  Type: object
  Properties:
    lppSupport:
      Type: boolean
      Default: true
    ciotOptimisation:
      Type: boolean
      Default: false
PeriodicEventInfo:
  Type: object
```

```
    Required:
      - reportingAmount
      - reportingInterval
    Properties:
      reportingAmount:
        Reference: '#/components/schemas/ReportingAmount'
      reportingInterval:
        Reference: '#/components/schemas/ReportingInterval'
  AreaEventInfo:
    Type: object
    Required:
      - areaDefinition
    Properties:
      areaDefinition:
        Type: array
        Items:
          Reference: '#/components/schemas/ReportingArea'
        minItems: 1
        maxItems: 250
      occurrenceInfo:
        Reference: '#/components/schemas/OccurrenceInfo'
      minimumInterval:
        Reference: '#/components/schemas/MinimumInterval'
      maximumInterval:
        Reference: '#/components/schemas/MaximumInterval'
      samplingInterval:
        Reference: '#/components/schemas/SamplingInterval'
      reportingDuration:
        Reference: '#/components/schemas/ReportingDuration'
```

```
    reportingLocationReq:
      Type: boolean
      Default: true
  ReportingArea:
    Type: object
    Required:
      - areaType
    Properties:
      areaType:
        Reference: '#/components/schemas/ReportingAreaType'
      tai:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Tai'
      ecgi:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Ecgi'
      ncgi:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Ncgi'
  MotionEventInfo:
    Type: object
    Required:
      - linearDistance
    Properties:
      linearDistance:
        Reference: '#/components/schemas/LinearDistance'
      occurrenceInfo:
        Reference: '#/components/schemas/OccurrenceInfo'
      minimumInterval:
        Reference: '#/components/schemas/MinimumInterval'
      maximumInterval:
        Reference: '#/components/schemas/MaximumInterval'
```

```
    samplingInterval:
      Reference: '#/components/schemas/SamplingInterval'
    reportingDuration:
      Reference: '#/components/schemas/ReportingDuration'
    reportingLocationReq:
      Type: boolean
      Default: true
ReportingAccessTypes:
  Type: array
  Items:
    Reference: '#/components/schemas/ReportingAccessType'
  minItems: 1
CancelLocData:
  Type: object
  Required:
    - hgmlcCallBackURI
    - ldrReference
  Properties:
    hgmlcCallBackURI:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
    ldrReference:
      Reference: '#/components/schemas/LdrReference'
LocContextData:
  Type: object
  Required:
    - amfId
    - ldrType
    - hgmlcCallBackURI
    - ldrReference
    - eventReportMessage
```

```
Properties:
  amfId:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
  locationQoS:
    Reference: '#/components/schemas/LocationQoS'
  supportedGADShapes:
    Type: array
    Items:
      Reference: '#/components/schemas/SupportedGADShapes'
    minItems: 1
  supi:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Supi'
  gpsi:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Gpsi'
  ldrType:
    Reference: '#/components/schemas/LdrType'
  hgmlcCallBackURI:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
  ldrReference:
    Reference: '#/components/schemas/LdrReference'
  periodicEventInfo:
    Reference: '#/components/schemas/PeriodicEventInfo'
  areaEventInfo:
    Reference: '#/components/schemas/AreaEventInfo'
  motionEventInfo:
    Reference: '#/components/schemas/MotionEventInfo'
  eventReportMessage:
    Reference: '#/components/schemas/EventReportMessage'
```

```
    eventReportingStatus:
      Reference: '#/components/schemas/EventReportingStatus'
    ueLocationInfo:
      Reference: '#/components/schemas/UELocationInfo'
EventReportMessage:
  Type: object
  Required:
    - eventClass
    - eventContent
  Properties:
    eventClass:
      Reference: '#/components/schemas/EventClass'
    eventContent:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/RefToBinaryData'
EventReportingStatus:
  Type: object
  Properties:
    eventReportCounter:
      Reference: '#/components/schemas/EventReportCounter'
    eventReportDuration:
      Reference: '#/components/schemas/EventReportDuration'
UELocationInfo:
  Type: object
  Properties:
    locationEstimate:
      Reference: '#/components/schemas/GeographicArea'
    ageOfLocationEstimate:
      Reference: '#/components/schemas/AgeOfLocationEstimate'
    velocityEstimate:
```

```
      Reference: '#/components/schemas/VelocityEstimate'
    ageOfVelocityEstimate:
      Reference: '#/components/schemas/AgeOfLocationEstimate'

EventNotifyData:
  Type: object
  Required:
    - reportedEventType
    - ldrReference
  Properties:
    reportedEventType:
      Reference: '#/components/schemas/ReportedEventType'
    supi:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Supi'
    gpsi:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Gpsi'
    hgmlcCallBackURI:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
    ldrReference:
      Reference: '#/components/schemas/LdrReference'
    locationEstimate:
      Reference: '#/components/schemas/GeographicArea'
    ageOfLocationEstimate:
      Reference: '#/components/schemas/AgeOfLocationEstimate'
    civicAddress:
      Reference: '#/components/schemas/CivicAddress'
    positioningDataList:
      Type: array
      Items:
```

```
        Reference: '#/components/schemas/PositioningMethodAndUsage'
      minItems: 1
    gnssPositioningDataList:
      Type: array
      Items:
        Reference: '#/components/schemas/GnssPositioningMethodAndUsage'
      minItems: 1
    servingLMFidentification:
      Reference: '#/components/schemas/LMFIdentification'
    terminationCause:
      Reference: '#/components/schemas/TerminationCause'
    velocityEstimate:
      Reference: '#/components/schemas/VelocityEstimate'
    altitude:
      Reference: '#/components/schemas/Altitude'

  UeConnectivityState:
    Type: object
    Required:
      - accessType
    Properties:
      accessType:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/AccessType'
      connectivitystate:
        Reference: 'TS29518_Namf_EventExposure.yaml#/components/schemas/CmState'
#
#
# SIMPLE TYPES
#
```

```
Altitude:
  Type: number
  format: double
  Minimum: -32767
  Maximum: 32767
Angle:
  Type: integer
  Minimum: 0
  Maximum: 360
Uncertainty:
  Type: number
  format: float
  Minimum: 0
Orientation:
  Type: integer
  Minimum: 0
  Maximum: 180
Confidence:
  Type: integer
  Minimum: 0
  Maximum: 100
Accuracy:
  Type: number
  format: float
  Minimum: 0
InnerRadius:
  Type: integer
  format: int32
  Minimum: 0
```

```
      Maximum: 327675
    CorrelationID:
      Type: string
      minLength: 1
      maxLength: 255
    AgeOfLocationEstimate:
      Type: integer
      Minimum: 0
      Maximum: 32767
    HorizontalSpeed:
      Type: number
      format: float
      Minimum: 0
      Maximum: 2047
    VerticalSpeed:
      Type: number
      format: float
      Minimum: 0
      Maximum: 255
    SpeedUncertainty:
      Type: number
      format: float
      Minimum: 0
      Maximum: 255
    BarometricPressure:
      Type: integer
      Minimum: 30000
      Maximum: 115000
```

LcsServiceType:

Type: integer

Minimum: 0

Maximum: 127

LdrReference:

Type: string

minLength: 2

maxLength: 510

ReportingAmount:

Type: integer

Minimum: 1

Maximum: 8639999

ReportingInterval:

Type: integer

Minimum: 1

Maximum: 8639999

MinimumInterval:

Type: integer

Minimum: 1

Maximum: 32767

MaximumInterval:

Type: integer

Minimum: 1

Maximum: 86400

SamplingInterval:

Type: integer

Minimum: 1

Maximum: 3600

ReportingDuration:

```
      Type: integer
      Minimum: 1
      Maximum: 8640000
    LinearDistance:
      Type: integer
      Minimum: 1
      Maximum: 10000
    LMFIdentification:
      Type: string
    EventReportCounter:
      Type: integer
      Minimum: 1
      Maximum: 8640000
    EventReportDuration:
      Type: integer
      Minimum: 1
      Maximum: 8640000
#
# ENUMS
#
    ExternalClientType:
      anyOf:
        - type: string
          enum:
            - EMERGENCY_SERVICES
            - VALUE_ADDED_SERVICES
            - PLMN_OPERATOR_SERVICES
            - LAWFUL_INTERCEPT_SERVICES
            - PLMN_OPERATOR_BROADCAST_SERVICES
```

```
        - PLMN_OPERATOR_OM
        - PLMN_OPERATOR_ANONYMOUS_STATISTICS
        - PLMN_OPERATOR_TARGET_MS_SERVICE_SUPPORT
    - type: string
SupportedGADShapes:
  anyOf:
    - type: string
      enum:
        - POINT
        - POINT_UNCERTAINTY_CIRCLE
        - POINT_UNCERTAINTY_ELLIPSE
        - POLYGON
        - POINT_ALTITUDE
        - POINT_ALTITUDE_UNCERTAINTY
        - ELLIPSOID_ARC
    - type: string
ResponseTime:
  anyOf:
    - type: string
      enum:
        - LOW_DELAY
        - DELAY_TOLERANT
        - NO_DELAY
    - type: string
PositioningMethod:
  anyOf:
    - type: string
      enum:
        - CELLID
        - ECID
        - OTDOA
```

```
            - BAROMETRIC_PRESSURE
            - WLAN
            - BLUETOOTH
            - MBS
            - MOTION_SENSOR
            - DL_TDOA
            - DL_AOD
            - MULTI-RTT
            - NR_ECID
            - UL_TDOA
            - UL_AOA
            - NETWORK_SPECIFIC
        - type: string
    PositioningMode:
      anyOf:
        - type: string
          enum:
            - UE_BASED
            - UE_ASSISTED
            - CONVENTIONAL
        - type: string
    GnssId:
      anyOf:
        - type: string
          enum:
            - GPS
            - GALILEO
            - SBAS
            - MODERNIZED_GPS
            - QZSS
            - GLONASS
            - BDS
```

```
        - NAVIC
    - type: string
Usage:
  anyOf:
    - type: string
      enum:
        - UNSUCCESS
        - SUCCESS_RESULTS_NOT_USED
        - SUCCESS_RESULTS_USED_TO_VERIFY_LOCATION
        - SUCCESS_RESULTS_USED_TO_GENERATE_LOCATION
        - SUCCESS_METHOD_NOT_DETERMINED
    - type: string
LcsPriority:
  anyOf:
    - type: string
      enum:
        - HIGHEST_PRIORITY
        - NORMAL_PRIORITY
    - type: string
VelocityRequested:
  anyOf:
    - type: string
      enum:
        - VELOCITY_IS_NOT_REQUESTED
        - VELOCITY_IS_REQUESTED
    - type: string
AccuracyFulfilmentIndicator:
  anyOf:
    - type: string
      enum:
```

```
        - REQUESTED_ACCURACY_FULFILLED
        - REQUESTED_ACCURACY_NOT_FULFILLED
    - type: string
VerticalDirection:
  Type: string
  enum:
    - UPWARD
    - DOWNWARD
LdrType:
  anyOf:
    - type: string
      enum:
        - UE_AVAILABLE
        - PERIODIC
        - ENTERING_INTO_AREA
        - LEAVING_FROM_AREA
        - BEING_INSIDE_AREA
        - MOTION
    - type: string
ReportingAreaType:
  anyOf:
    - type: string
      enum:
        - EPS_TRACKING_AREA_IDENTITY
        - E-UTRAN_CELL_GLOBAL_IDENTIFICATION
        - 5GS_TRACKING_AREA_IDENTITY
        - NR_CELL_GLOBAL_IDENTITY
    - type: string
OccurrenceInfo:
  anyOf:
    - type: string
```

```
      enum:
        - ONE_TIME_EVENT
        - MULTIPLE_TIME_EVENT
    - type: string
ReportingAccessType:
  anyOf:
    - type: string
      enum:
        - NR
        - EUTRA_CONNECTED_TO_5GC
        - NON_3GPP_CONNECTED_TO_5GC
    - type: string
EventClass:
  anyOf:
    - type: string
      enum:
        - SUPPLEMENTARY_SERVICES
    - type: string
ReportedEventType:
  anyOf:
    - type: string
      enum:
        - PERIODIC_EVENT
        - ENTERING_AREA_EVENT
        - LEAVING_AREA_EVENT
        - BEING_INSIDE_AREA_EVENT
        - MOTION_EVENT
        - MAXIMUM_INTERVAL_EXPIRATION_EVENT
        - LOCATION_CANCELLATION_EVENT
    - type: string
TerminationCause:
```

```
      anyOf:
        - type: string
          enum:
            - TERMINATION_BY_UE
            - TERMINATION_BY_NETWORK
            - NORMAL_TERMINATION
        - type: string
    LcsQosClass:
      anyOf:
        - type: string
          enum:
            - BEST_EFFORT
            - ASSURED
        - type: string

    UeLocationServiceInd:
      anyOf:
        - type: string
          enum:
            - LOCATION_ESTIMATE
            - LOCATION_ASSISTANCE_DATA
        - type: string
```

External Docs

```
Description: 3GPP TS 29.572 V16.4.0; 5G System; Location Management Services; Stage 3
URL: 'http://www.3gpp.org/ftp/Specs/archive/29_series/29.572/'
```