



# MonitoringEvent

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## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Title:** 3gpp-monitoring-event  
**Version:** "1.0.0"

## Servers

**URL:** '{apiRoot}/3gpp-monitoring-event/v1'

**Variables:**

**API Root:**

**Default:** https://example.com

**Description:** apiRoot as defined in subclause 5.2.4 of 3GPP TS 29.122.

## Security

- {}
- oAuth2ClientCredentials: []

# Paths

## `{scsAsId}/subscriptions`

### get:

**Summary:** read all of the active subscriptions for the SCS/AS

### Tags:

- MonitoringEvent API SCS/AS level GET Operation

### Parameters:

- **Name:** `scsAsId`  
**In:** path  
**Description:** Identifier of the SCS/AS  
**Required/Optional:** true  
**Schema:**  
**Type:** string

### Responses:

'200':  
**Description:** OK (Successful get all of the active subscriptions for the SCS/AS)  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Type:** array  
**Items:**  
**Reference:** '#/components/schemas/MonitoringEventSubscription'  
**Min Items:** 0  
**Description:** Monitoring event subscriptions

'400':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'406':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/406'

'429':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

'503':  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

### Method: Post

**Summary:** Creates a new subscription resource for monitoring event notification

**Tags:**

- MonitoringEvent API Subscription level POST Operation

**Parameters:**

- **Name:** scsAsId

**In:** path

**Description:** Identifier of the SCS/AS

**Required/Optional:** true

**Schema:**

**Type:** string

**Request Body:**

**Description:** Subscription for notification about monitoring event

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/MonitoringEventSubscription'

**Callbacks:**

**notificationDestination:**

'{request.body#/notificationDestination}':

**Method:** Post

**Request Body:** # contents of the callback message

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/MonitoringNotification'

**Responses:**

'204':

**Description:** No Content (successful notification)

'400':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:****Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'**Responses:****'201':****Description:** Created (Successful creation of subscription)**Content:****Application/JSON:****Schema:****Reference:** '#/components/schemas/MonitoringEventSubscription'**Headers:****Location:****Description:** 'Contains the URI of the newly created resource'**Required/Optional:** true**Schema:****Type:** string**'400':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'**'401':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'**'403':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'**'404':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'**'411':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'**'413':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'**'415':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'**'429':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'**'500':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'**'503':****Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'**Default:****Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

## /{scsAsId}/subscriptions/{subscriptionId}

**get:****Summary:** read an active subscriptions for the SCS/AS and the subscription Id**Tags:**

- MonitoringEvent API Subscription level GET Operation

**Parameters:**- **Name:** scsAsId**In:** path**Description:** Identifier of the SCS/AS

```

    Required/Optional: true
    Schema:
      Type: string
  - Name: subscriptionId
    In: path
    Description: Identifier of the subscription resource
    Required/Optional: true
    Schema:
      Type: string

Responses:
  '200':
    Description: OK (Successful get the active subscription)
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/MonitoringEventSubscription'
  '400':
    Reference: 'TS29122_CommonData.yaml#/components/responses/400'
  '401':
    Reference: 'TS29122_CommonData.yaml#/components/responses/401'
  '403':
    Reference: 'TS29122_CommonData.yaml#/components/responses/403'
  '404':
    Reference: 'TS29122_CommonData.yaml#/components/responses/404'
  '406':
    Reference: 'TS29122_CommonData.yaml#/components/responses/406'
  '429':
    Reference: 'TS29122_CommonData.yaml#/components/responses/429'
  '500':
    Reference: 'TS29122_CommonData.yaml#/components/responses/500'
  '503':
    Reference: 'TS29122_CommonData.yaml#/components/responses/503'
  Default:
    Reference: 'TS29122_CommonData.yaml#/components/responses/default'

put:
  Summary: Updates/replaces an existing subscription resource

Tags:
  - MonitoringEvent API subscription level PUT Operation

Parameters:
  - Name: scsAsId
    In: path
    Description: Identifier of the SCS/AS
    Required/Optional: true
    Schema:
      Type: string
  - Name: subscriptionId
    In: path
    Description: Identifier of the subscription resource
    Required/Optional: true

```

**Schema:**  
**Type:** string

**Request Body:**  
**Description:** Parameters to update/replace the existing subscription  
**Required/Optional:** true  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/MonitoringEventSubscription'

**Responses:**

**'200':**  
**Description:** OK (Successful update of the subscription)  
**Content:**  
**Application/JSON:**  
**Schema:**  
**Reference:** '#/components/schemas/MonitoringEventSubscription'

**'400':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/400'

**'401':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/401'

**'403':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/403'

**'404':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/404'

**'411':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/411'

**'413':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/413'

**'415':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/415'

**'429':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/429'

**'500':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/500'

**'503':**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/503'

**Default:**  
**Reference:** 'TS29122\_CommonData.yaml#/components/responses/default'

**delete:**  
**Summary:** Deletes an already existing monitoring event subscription

**Tags:**  
- MonitoringEvent API Subscription level DELETE Operation

**Parameters:**  
- **Name:** scsAsId  
**In:** path  
**Description:** Identifier of the SCS/AS  
**Required/Optional:** true  
**Schema:**  
**Type:** string

```

- Name: subscriptionId
  In: path
  Description: Identifier of the subscription resource
  Required/Optional: true
  Schema:
    Type: string

Responses:
  '204':
    Description: No Content (Successful deletion of the existing subscription)
  '200':
    Description: OK (Successful deletion of the existing subscription)
    Content:
      Application/JSON:
        Schema:
          Type: array
          Items:
            Reference: '#/components/schemas/MonitoringEventReport'
            Min Items: 1
            Description: The subscription was terminated successfully, the monitoring
event report(s) shall be included if received.
  '400':
    Reference: 'TS29122_CommonData.yaml#/components/responses/400'
  '401':
    Reference: 'TS29122_CommonData.yaml#/components/responses/401'
  '403':
    Reference: 'TS29122_CommonData.yaml#/components/responses/403'
  '404':
    Reference: 'TS29122_CommonData.yaml#/components/responses/404'
  '429':
    Reference: 'TS29122_CommonData.yaml#/components/responses/429'
  '500':
    Reference: 'TS29122_CommonData.yaml#/components/responses/500'
  '503':
    Reference: 'TS29122_CommonData.yaml#/components/responses/503'
Default:
  Reference: 'TS29122_CommonData.yaml#/components/responses/default'

```

## Components

```

securitySchemes:
  oAuth2ClientCredentials:
    Type: oAuth2
    Flows:
      clientCredentials:
        tokenUrl: '{tokenUrl}'
        scopes: {}

schemas:
  MonitoringEventSubscription:

```

**Type:** object

**Properties:**

- self:**
  - Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Link'
- supportedFeatures:**
  - Reference:** 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'
- externalId:**
  - Reference:** 'TS29122\_CommonData.yaml#/components/schemas/ExternalId'
- msisdn:**
  - Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Msisdn'
- externalGroupId:**
  - Reference:** 'TS29122\_CommonData.yaml#/components/schemas/ExternalGroupId'
- addExtGroupId:**
  - Type:** array
  - Items:**
    - Reference:** 'TS29122\_CommonData.yaml#/components/schemas/ExternalGroupId'
  - minItems:** 2
- ipv4Addr:**
  - Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Ipv4Addr'
- ipv6Addr :**
  - Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Ipv6Addr'
- notificationDestination:**
  - Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Link'
- requestTestNotification:**
  - Type:** boolean
  - Description:** Set to true by the SCS/AS to request the SCEF to send a test notification as defined in subclause 5.2.5.3. Set to false or omitted otherwise.
- websockNotifConfig:**
  - Reference:** 'TS29122\_CommonData.yaml#/components/schemas/WebsockNotifConfig'
- monitoringType:**
  - Reference:** '#/components/schemas/MonitoringType'
- maximumNumberOfReports:**
  - Type:** integer
  - Minimum:** 1
  - Description:** Identifies the maximum number of event reports to be generated by the HSS, MME/SGSN as specified in subclause 5.6.0 of 3GPP TS 23.682 [2].
- monitorExpireTime:**
  - Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DateTime'
- groupReportGuardTime:**
  - Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DurationSec'
- maximumDetectionTime:**
  - Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DurationSec'
- reachabilityType:**
  - Reference:** '#/components/schemas/ReachabilityType'
- maximumLatency:**
  - Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DurationSec'
- maximumResponseTime:**
  - Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DurationSec'
- suggestedNumberOfDlPackets:**
  - Type:** integer
  - Minimum:** 0
  - Description:** If "monitoringType" is "UE\_REACHABILITY", this parameter may be



included to identify the number of packets that the serving gateway shall buffer in case that the UE is not reachable.

**idleStatusIndication:**

**Type:** boolean

**Description:** If "monitoringType" is set to "UE\_REACHABILITY" or "AVAILABILITY\_AFTER\_DDN\_FAILURE", this parameter may be included to indicate the notification of when a UE, for which PSM is enabled, transitions into idle mode. - "true" indicate enabling of notification - "false" indicate no need to notify Default "false".

**locationType:**

**Reference:** '#/components/schemas/LocationType'

**accuracy:**

**Reference:** '#/components/schemas/Accuracy'

**minimumReportInterval:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DurationSec'

**associationType:**

**Reference:** '#/components/schemas/AssociationType'

**plmnIndication:**

**Type:** boolean

**Description:** If "monitoring-Type" is "ROAMING\_STATUS", this parameter may be included to indicate the notification of UE's Serving PLMN ID. - "true" The value shall be used to indicate enabling of notification; - "false" The value shall be used to indicate disabling of notification. Default "false".

**locationArea:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/LocationArea'

**LocationArea5G:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/LocationArea5G'

**monitoringEventReport:**

**Reference:** '#/components/schemas/MonitoringEventReport'

**Required:**

- notificationDestination
- monitoringType

**anyOf:**

- required: [maximumNumberOfReports]
- required: [monitorExpireTime]

**MonitoringNotification:**

**Type:** object

**Properties:**

**subscription:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Link'

**configResults:**

**Type:** array

**Items:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/ConfigResult'

**minItems:** 1

**Description:** Each element identifies a notification of grouping configuration result.

**monitoringEventReports:**

**Type:** array

**Items:**

**Reference:** '#/components/schemas/MonitoringEventReport'

**minItems:** 1

**Description:** Monitoring event reports.

**cancelInd:**

**Type:** boolean

**Description:** Indicates whether to request to cancel the corresponding monitoring subscription. Set to false or omitted otherwise.

**Required:**

- subscription

**MonitoringEventReport:**

**Type:** object

**Properties:**

**imeiChange:**

**Reference:** '#/components/schemas/AssociationType'

**externalId:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/ExternalId'

**idleStatusInfo:**

**Reference:** '#/components/schemas/IdleStatusInfo'

**locationInfo:**

**Reference:** '#/components/schemas/LocationInfo'

**lossOfConnectReason:**

**Type:** integer

**Description:** If "monitoring-Type" is "LOSS\_OF\_CONNECTIVITY", this parameter shall be included if available to identify the reason why loss of connectivity is reported. Refer to 3GPP TS 29.336 [11] Subclause 8.4.58.

**maxUEAvailabilityTime:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DateTime'

**msisdn:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Msisdn'

**monitoringType:**

**Reference:** '#/components/schemas/MonitoringType'

**uePerLocationReport:**

**Reference:** '#/components/schemas/UePerLocationReport'

**plmnId:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/PlmnId'

**reachabilityType:**

**Reference:** '#/components/schemas/ReachabilityType'

**roamingStatus:**

**Type:** boolean

**Description:** If "monitoringType" is "ROAMING\_STATUS", this parameter shall be set to "true" if the UE is on roaming status. Set to false or omitted otherwise.

**failureCause:**

**Reference:** '#/components/schemas/FailureCause'

**eventTime:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DateTime'

**Required:**

- monitoringType

**IdleStatusInfo:**

**Type:** object

**Properties:**

**activeTime:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DurationSec'

**edrxCycleLength:**

**format:** float

**Type:** number

**Minimum:** 0

**suggestedNumberOfDlPackets:**

**Type:** integer

**Minimum:** 0

**Description:** Identifies the number of packets shall be buffered in the serving gateway. It shall be present if the idle status indication is requested by the SCS/AS with "idleStatusIndication" in the "monitoringEventSubscription" sets to "true".

**idleStatusTimestamp:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DateTime'

**periodicAUTimer:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DurationSec'

**UePerLocationReport:**

**Type:** object

**Properties:**

**ueCount:**

**Type:** integer

**Minimum:** 0

**Description:** Identifies the number of UEs.

**externalIds:**

**Type:** array

**Items:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/ExternalId'

**minItems:** 1

**Description:** Each element uniquely identifies a user.

**msisdns:**

**Type:** array

**Items:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/Msisdn'

**minItems:** 1

**Description:** Each element identifies the MS internal PSTN/ISDN number allocated for a UE.

**Required:**

- ueCount

**LocationInfo:**

**Type:** object

**Properties:**

**ageOfLocationInfo:**

**Reference:** 'TS29122\_CommonData.yaml#/components/schemas/DurationMin'

**cellId:**

**Type:** string

**Description:** Indicates the Cell Global Identification of the user which identifies the cell the UE is registered.

**enodeBId:**

**Type:** string

**Description:** Indicates the eNodeB in which the UE is currently located.

**routingAreaId:**

**Type:** string

**Description:** Identifies the Routing Area Identity of the user where the UE is located.

**trackingAreaId:**

**Type:** string

**Description:** Identifies the Tracking Area Identity of the user where the UE is located.

**plmnId:**

**Type:** string

**Description:** Identifies the PLMN Identity of the user where the UE is located.

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twanId:
  Type: string
  Description: Identifies the TWAN Identity of the user where the UE is located.
geographicArea:
  Reference: 'TS29572_Nlmf_Location.yaml#/components/schemas/GeographicArea'
FailureCause:
  Type: object
  Properties:
    bssgpCause:
      Type: integer
      Description: Identifies a non-transparent copy of the BSSGP cause code. Refer to
3GPP TS 29.128 [12].
    causeType:
      Type: integer
      Description: Identify the type of the S1AP-Cause. Refer to 3GPP TS 29.128 [12].
    gmmCause:
      Type: integer
      Description: Identifies a non-transparent copy of the GMM cause code. Refer to
3GPP TS 29.128 [12].
    ranapCause:
      Type: integer
      Description: Identifies a non-transparent copy of the RANAP cause code. Refer to
3GPP TS 29.128 [12].
    ranNasCause:
      Type: string
      Description: Indicates RAN and/or NAS release cause code information, TWAN release
cause code information or untrusted WLAN release cause code information. Refer to 3GPP TS
29.214 [10].
    s1ApCause:
      Type: integer
      Description: Identifies a non-transparent copy of the S1AP cause code. Refer to
3GPP TS 29.128 [12].
    smCause:
      Type: integer
      Description: Identifies a non-transparent copy of the SM cause code. Refer to
3GPP TS 29.128 [12].
  MonitoringType:
    anyOf:
      - type: string
      enum:
        - LOSS_OF_CONNECTIVITY
        - UE_REACHABILITY
        - LOCATION_REPORTING
        - CHANGE_OF_IMSI_IMEI_ASSOCIATION
        - ROAMING_STATUS
        - COMMUNICATION_FAILURE
        - AVAILABILITY_AFTER_DDN_FAILURE
        - NUMBER_OF_UES_IN_AN_AREA
      - type: string
    Description:
      This string provides forward-compatibility with future
      extensions to the enumeration but is not used to encode
      content defined in the present version of this API.
  Description:
    Possible values are
    - LOSS_OF_CONNECTIVITY: The SCS/AS requests to be notified when the 3GPP network

```

detects that the UE is no longer reachable for signalling or user plane communication

- UE\_REACHABILITY: The SCS/AS requests to be notified when the UE becomes reachable for sending either SMS or downlink data to the UE
- LOCATION\_REPORTING: The SCS/AS requests to be notified of the current location or the last known location of the UE
- CHANGE\_OF\_IMSI\_IMEI\_ASSOCIATION: The SCS/AS requests to be notified when the association of an ME (IMEI(SV)) that uses a specific subscription (IMSI) is changed
- ROAMING\_STATUS: The SCS/AS queries the UE's current roaming status and requests to get notified when the status changes
- COMMUNICATION\_FAILURE: The SCS/AS requests to be notified of communication failure events
- AVAILABILITY\_AFTER\_DDN\_FAILURE: The SCS/AS requests to be notified when the UE has become available after a DDN failure
- NUMBER\_OF\_UES\_IN\_AN\_AREA: The SCS/AS requests to be notified the number of UEs in a given geographic area

#### **ReachabilityType:**

##### **anyOf:**

- type: string

##### **enum:**

- SMS
- DATA

- type: string

##### **Description:**

This string provides forward-compatibility with future extensions to the enumeration but is not used to encode content defined in the present version of this API.

##### **Description:**

Possible values are

- SMS : The SCS/AS requests to be notified when the UE becomes reachable for sending SMS to the UE
- DATA: The SCS/AS requests to be notified when the UE becomes reachable for sending downlink data to the UE

#### **LocationType:**

##### **anyOf:**

- type: string

##### **enum:**

- CURRENT\_LOCATION
- LAST\_KNOWN\_LOCATION

- type: string

##### **Description:**

This string provides forward-compatibility with future extensions to the enumeration but is not used to encode content defined in the present version of this API.

##### **Description:**

Possible values are

- CURRENT\_LOCATION: The SCS/AS requests to be notified for current location
- LAST\_KNOWN\_LOCATION: The SCS/AS requests to be notified for last known location

#### **AssociationType:**

##### **anyOf:**

- type: string

##### **enum:**

- IMEI
- IMEISV

- type: string

##### **Description:**

This string provides forward-compatibility with future extensions to the enumeration but is not used to encode content defined in the present version of this API.

##### **Description:**

Possible values are

- IMEI: The value shall be used when the change of IMSI-IMEI association shall be

detected

- IMEISV: The value shall be used when the change of IMSI-IMEISV association shall be detected

**Accuracy:**

**anyOf:**

- type: string

**enum:**

- CGI\_ECGI
- ENODEB
- TA\_RA
- PLMN
- TWAN\_ID
- GEO\_AREA

- type: string

**Description:**

This string provides forward-compatibility with future extensions to the enumeration but is not used to encode content defined in the present version of this API.

**Description:**

Possible values are

- CGI\_ECGI: The SCS/AS requests to be notified at cell level location accuracy.
- ENODEB: The SCS/AS requests to be notified at eNodeB level location accuracy.
- TA\_RA: The SCS/AS requests to be notified at TA/RA level location accuracy.
- PLMN: The SCS/AS requests to be notified at PLMN level location accuracy.
- TWAN\_ID: The SCS/AS requests to be notified at TWAN identifier level location accuracy.
- GEO\_AREA: The SCS/AS requests to be notified of the geographical area accuracy.