



Nudm_SDM

This service is used by Consumer NFs (AMF, SMF, SMSF) to retrieve the UE's individual subscription data relevant to the consumer NF from the UDM.

Reference: 3GPP TS 29.503 Unified Data Management Services, version 15.3.0

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OpenAPI

OpenAPI Version: 3.0.0

Info

Version: '2.1.0.alpha-4'

Title: 'Nudm_SDM'

Description: |

Nudm Subscriber Data Management Service.

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Servers

URL: '{apiRoot}/nudm-sdm/v2'

Variables:

API Root:

Default: https://example.com

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

Security

```
- oAuth2ClientCredentials:
  - nudm-sdm
- {}
```

Paths

/supi

get:

Summary: retrieve multiple data sets

Operation ID: GetDataSets

Tags:

- Retrieval of multiple data sets

Parameters:

- **Name:** supi
In: path
Description: Identifier of the UE
Required/Optional: true
Schema:
Reference: 'TS29571_CommonData.yaml#/components/schemas/Supi'
- **Name:** dataset-names
In: query
Style: form
Explode: false
Description: List of dataset names
Required/Optional: true
Schema:
Reference: '#/components/schemas/DatasetNames'
- **Name:** plmn-id
In: query
Description: serving PLMN ID
Content:
Application/JSON:
Schema:
Reference: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
- **Name:** supported-features
In: query
Description: Supported Features
Schema:
Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
- **Name:** If-None-Match
In: header
Description: Validator for conditional requests, as described in RFC 7232, 3.2

```

    Schema:
      Type: string
  - Name: If-Modified-Since
    In: header
    Description: Validator for conditional requests, as described in RFC 7232, 3.3
    Schema:
      Type: string

Responses:
  '200':
    Description: Expected response to a valid request
    Content:
      Application/JSON:
        Schema:
          Reference: '#/components/schemas/SubscriptionDataSets'
    Headers:
      Cache-Control:
        Description: Cache-Control containing max-age, as described in RFC 7234, 5.2

        Schema:
          Type: string
      ETag:
        Description: Entity Tag, containing a strong validator, as described in RFC
7232, 2.3
        Schema:
          Type: string
      Last-Modified:
        Description: Timestamp for last modification of the resource, as described
in RFC 7232, 2.2
        Schema:
          Type: string
  '400':
    Reference: 'TS29571_CommonData.yaml#/components/responses/400'
  '404':
    Reference: 'TS29571_CommonData.yaml#/components/responses/404'
  '500':
    Reference: 'TS29571_CommonData.yaml#/components/responses/500'
  '503':
    Reference: 'TS29571_CommonData.yaml#/components/responses/503'
Default:
  Description: Unexpected error

```

/{ueld}/sdm-subscriptions

```

Method: Post
Summary: subscribe to notifications
Operation ID: Subscribe

Tags:
  - Subscription Creation

```

Parameters:

- **Name:** ueId
In: path
Description: Identity of the user
Required/Optional: true
Schema:
Reference: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'

Request Body:

Content:
Application/JSON:
Schema:
Reference: '#/components/schemas/SdmSubscription'
Required/Optional: true

Responses:

'201':
Description: Expected response to a valid request
Content:
Application/JSON:
Schema:
Reference: '#/components/schemas/SdmSubscription'
Headers:
Location:
description: 'Contains the URI of the newly created resource, according to the structure:
{apiRoot}/nudm-sdm/<apiVersion>/{supi}/sdm-subscriptions/{subscriptionId}'
Required/Optional: true
Schema:
Type: string
'400':
Reference: 'TS29571_CommonData.yaml#/components/responses/400'
'404':
Reference: 'TS29571_CommonData.yaml#/components/responses/404'
'500':
Reference: 'TS29571_CommonData.yaml#/components/responses/500'
'501':
Reference: 'TS29571_CommonData.yaml#/components/responses/501'
'503':
Reference: 'TS29571_CommonData.yaml#/components/responses/503'

Default:

Description: Unexpected error

Callbacks:

datachangeNotification:
'{request.body#/callbackReference}':
Method: Post
Request Body:
Required/Optional: true
Content:
Application/JSON:
Schema:
Reference: '#/components/schemas/ModificationNotification'

Responses:

'204':
Description: Successful Notification response

'307':
Description: Temporary Redirect
Content:
application/problem+json:
Schema:
Reference:
 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
Headers:
Location:
Description: 'Contains the new Callback URI of the target NF Service Consumer (e.g. AMF) to which the request is redirected'
Required/Optional: true
Schema:
Type: string

'308':
Description: Permanent Redirect
Content:
application/problem+json:
Schema:
Reference:
 'TS29571_CommonData.yaml#/components/schemas/ProblemDetails'
Headers:
Location:
Description: 'Contains the new Callback URI of the target NF Service Consumer (e.g. AMF) to which the request is redirected'
Required/Optional: true
Schema:
Type: string

'400':
Reference: 'TS29571_CommonData.yaml#/components/responses/400'

'404':
Reference: 'TS29571_CommonData.yaml#/components/responses/404'

'500':
Reference: 'TS29571_CommonData.yaml#/components/responses/500'

'503':
Reference: 'TS29571_CommonData.yaml#/components/responses/503'

Default:
Description: Unexpected error

{/ueld}/sdm-subscriptions/{subscriptionId}

delete:
Summary: unsubscribe from notifications
Operation ID: Unsubscribe

Tags:
 - Subscription Deletion

Parameters:

- **Name:** ueId
In: path
Description: Identity of the user
Required/Optional: true
Schema:
Reference: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
- **Name:** subscriptionId
In: path
Description: Id of the SDM Subscription
Required/Optional: true
Schema:
Type: string

Responses:

- '204':
Description: Successful response
- '400':
Reference: 'TS29571_CommonData.yaml#/components/responses/400'
- '404':
Reference: 'TS29571_CommonData.yaml#/components/responses/404'
- '500':
Reference: 'TS29571_CommonData.yaml#/components/responses/500'
- '503':
Reference: 'TS29571_CommonData.yaml#/components/responses/503'
- Default:**
Description: Unexpected error

patch:

Summary: modify the subscription
Operation ID: Modify

Tags:

- Subscription Modification

Parameters:

- **Name:** ueId
In: path
Description: Identity of the user
Required/Optional: true
Schema:
Reference: 'TS29571_CommonData.yaml#/components/schemas/VarUeId'
- **Name:** subscriptionId
In: path
Description: Id of the SDM Subscription
Required/Optional: true
Schema:
Type: string
- **Name:** supported-features
In: query
Description: Features required to be supported by the target NF
Schema:
Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'

Request Body:
Content:
 application/merge-patch+json:
Schema:
Reference: '#/components/schemas/SdmSubsModification'
Required/Optional: true

Responses:
'200':
Description: Expected response to a valid request
Content:
Application/JSON:
Schema:
oneOf:
 - **\$ref:** '#/components/schemas/SdmSubscription'
 - **\$ref:** 'TS29571_CommonData.yaml#/components/schemas/PatchResult'
'400':
Reference: 'TS29571_CommonData.yaml#/components/responses/400'
'403':
Reference: 'TS29571_CommonData.yaml#/components/responses/403'
'404':
Reference: 'TS29571_CommonData.yaml#/components/responses/404'
'500':
Reference: 'TS29571_CommonData.yaml#/components/responses/500'
'503':
Reference: 'TS29571_CommonData.yaml#/components/responses/503'
Default:
Description: Unexpected error

{/supi}/am-data/sor-ack

put:
Summary: Nudm_Sdm Info service operation
Operation ID: SorAckInfo

Tags:
 - Providing acknowledgement of Steering of Roaming

Parameters:
 - **Name:** supi
In: path
Description: Identifier of the UE
Required/Optional: true
Schema:
Reference: 'TS29571_CommonData.yaml#/components/schemas/Supi'

Request Body:
Content:
Application/JSON:
Schema:
Reference: '#/components/schemas/AcknowledgeInfo'

```

Responses:
  '204':
    Description: Successful acknowledgement
  '400':
    Reference: 'TS29571_CommonData.yaml#/components/responses/400'
  '500':
    Reference: 'TS29571_CommonData.yaml#/components/responses/500'
  '503':
    Reference: 'TS29571_CommonData.yaml#/components/responses/503'
Default:
  Description: Unexpected error

```

Components

```

securitySchemes:
  oAuth2ClientCredentials:
    Type: oauth2
    Flows:
      clientCredentials:
        tokenUrl: '{nrfApiRoot}/oauth2/token'
        scopes:
          nudm-sdm: Access to the nudm-sdm API

schemas:
# COMPLEX TYPES:
DatasetNames:
  Type: array
  Items:
    Reference: '#/components/schemas/DataSetName'
  minItems: 2
  uniqueItems: true
SubscriptionDataSets:
  Type: object
  Properties:
    amData:
      Reference: '#/components/schemas/AccessAndMobilitySubscriptionData'
    smfSelData:
      Reference: '#/components/schemas/SmfSelectionSubscriptionData'
    uecSmfData:
      Reference: '#/components/schemas/UeContextInSmfData'
    uecSmsfData:
      Reference: '#/components/schemas/UeContextInSmsfData'
    smsSubsData:
      Reference: '#/components/schemas/SmsSubscriptionData'
    smData:
      Type: array
      Items:
        Reference: '#/components/schemas/SessionManagementSubscriptionData'
      minItems: 1

```

```

    traceData:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/TraceData'
    smsMngData:
      Reference: '#/components/schemas/SmsManagementSubscriptionData'
    lcsPrivacyData:
      Reference: '#/components/schemas/LcsPrivacyData'
    lcsMoData:
      Reference: '#/components/schemas/LcsMoData'
  UeContextInSmsfData:
    Type: object
    Properties:
      smsfInfo3GppAccess:
        Reference: '#/components/schemas/SmsfInfo'
      smsfInfoNon3GppAccess:
        Reference: '#/components/schemas/SmsfInfo'
  SmsfInfo:
    Type: object
    Required:
      - smsfInstanceId
      - plmnId
    Properties:
      smsfInstanceId:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
      plmnId:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
  AccessAndMobilitySubscriptionData:
    Type: object
    Properties:
      supportedFeatures:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
      gpsis:
        Type: array
        Items:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/Gpsi'
      internalGroupIds:
        Type: array
        Items:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/GroupId'
        minItems: 1
      vnGroupInfo:
        Type: object
        additionalProperties:
          Reference: '#/components/schemas/VnGroupData'
        minProperties: 1
      sharedVnGroupDataIds:
        Type: object
        additionalProperties:
          Reference: '#/components/schemas/SharedDataId'
        minProperties: 1
      subscribedUeAmbr:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/AmbrRm'
      nssai:

```

```

    Reference: '#/components/schemas/Nssai'
  ratRestrictions:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/RatType'
  forbiddenAreas:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Area'
  serviceAreaRestriction:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/ServiceAreaRestriction'
  coreNetworkTypeRestrictions:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/CoreNetworkType'
  rfspIndex:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/RfspIndexRm'
  subsRegTimer:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DurationSecRm'
  ueUsageType:
    Reference: '#/components/schemas/UeUsageType'
  mpsPriority:
    Reference: '#/components/schemas/MpsPriorityIndicator'
  mcsPriority:
    Reference: '#/components/schemas/McsPriorityIndicator'
  activeTime:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DurationSecRm'
  dlPacketCount:
    Reference: '#/components/schemas/DlPacketCount'
  sorInfo:
    Reference: '#/components/schemas/SorInfo'
  sorInfoExpectInd:
    Type: boolean
  sorafRetrieval:
    Type: boolean
    Default: false
  sorUpdateIndicatorList:
    Type: array
    Items:
      Reference: '#/components/schemas/SorUpdateIndicator'
    minItems: 1
  upuInfo:
    Reference: '#/components/schemas/UpuInfo'
  micoAllowed:
    Reference: '#/components/schemas/MicoAllowed'
  sharedAmDataIds:
    Type: array
    Items:
      Reference: '#/components/schemas/SharedDataId'
    minItems: 1
  odbPacketServices:

```

```

    Reference: 'TS29571_CommonData.yaml#/components/schemas/OdbPacketServices'
subscribedDnnList:
  Type: array
  Items:
    anyOf:
      - $ref: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
      - $ref: 'TS29571_CommonData.yaml#/components/schemas/WildcardDnn'
serviceGapTime:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/DurationSec'
traceData:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/TraceData'
cagData:
  Reference: '#/components/schemas/CagData'
stnSr:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/StnSr'
cMsisdn:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/CMsisdn'
nbIoTUEPriority:
  Reference: '#/components/schemas/NbIoTUEPriority'
nssaiInclusionAllowed:
  Type: boolean
  Default: false
rgWirelineCharacteristics:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/RgWirelineCharacteristics'

rgTMBR:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/Tmbr'
ecRestrictionData:
  Reference: '#/components/schemas/EcRestrictionData'
expectedUeBehaviourList:
  Reference: '#/components/schemas/ExpectedUeBehaviourData'
maximumResponseTimeList:
  Type: array
  Items:
    Reference: '#/components/schemas/MaximumResponseTime'
  minItems: 1
maximumLatencyList:
  Type: array
  Items:
    Reference: '#/components/schemas/MaximumLatency'
  minItems: 1
primaryRatRestrictions:
  Type: array
  Items:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/RatType'
secondaryRatRestrictions:
  Type: array
  Items:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/RatType'
edrxParametersList:
  Type: array
  Items:

```

```

        Reference: '#/components/schemas/EdrxParameters'
    minItems: 1
    ptwParametersList:
        Type: array
        Items:
            Reference: '#/components/schemas/PtwParameters'
        minItems: 1
    iabOperationAllowed:
        Type: boolean
        Default: false
    nrV2xServicesAuth:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/NrV2xAuth'
    lteV2xServicesAuth:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/LteV2xAuth'
    nrUePc5Ambr:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
    ltePc5Ambr:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/BitRate'
CagData:
    Type: object
    Required:
        - cagInfos
    Properties:
        cagInfos:
            Description: A map (list of key-value pairs where PlmnId serves as key) of CagInfo

            Type: object
            additionalProperties:
                Reference: '#/components/schemas/CagInfo'
        provisioningTime:
            Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
CagInfo:
    Type: object
    Required:
        - allowedCagList
    Properties:
        allowedCagList:
            Type: array
            Items:
                Reference: 'TS29571_CommonData.yaml#/components/schemas/CagId'
        cagOnlyIndicator:
            Type: boolean
SmfSelectionSubscriptionData:
    Type: object
    Properties:
        supportedFeatures:
            Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
        subscribedSnssaiInfos:
            Type: object
            additionalProperties:
                Reference: '#/components/schemas/SnssaiInfo'
        sharedSnssaiInfosId:

```

```

      Reference: '#/components/schemas/SharedDataId'
SnssaiInfo:
  Type: object
  Required:
    - dnnInfos
  Properties:
    dnnInfos:
      Type: array
      Items:
        Reference: '#/components/schemas/DnnInfo'
      minItems: 1
DnnInfo:
  Type: object
  Required:
    - dnn
  Properties:
    dnn:
      anyOf:
        - $ref: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
        - $ref: 'TS29571_CommonData.yaml#/components/schemas/WildcardDnn'
    defaultDnnIndicator:
      Reference: '#/components/schemas/DnnIndicator'
    lboRoamingAllowed:
      Reference: '#/components/schemas/LboRoamingAllowed'
    iwkEpsInd:
      Reference: '#/components/schemas/IwkEpsInd'
    dnnBarred:
      Type: boolean
Nssai:
  Type: object
  Required:
    - defaultSingleNssais
  Properties:
    supportedFeatures:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
    defaultSingleNssais:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
      minItems: 1
    singleNssais:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
      minItems: 1
    provisioningTime:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
    additionalSnssaiData:
      Type: object
      additionalProperties:
        Reference: '#/components/schemas/AdditionalSnssaiData'
      minProperties: 1

```

```

    nullable: true
  UeContextInSmfData:
    Type: object
    Properties:
      pduSessions:
        Description: A map (list of key-value pairs where PduSessionId serves as key) of
PduSessions
        Type: object
        additionalProperties:
          Reference: '#/components/schemas/PduSession'
      pgwInfo:
        Type: array
        Items:
          Reference: '#/components/schemas/PgwInfo'
        minItems: 1
      emergencyInfo:
        Reference: '#/components/schemas/EmergencyInfo'
  EmergencyInfo:
    Type: object
    oneOf:
      - required:
        - pgwFqdn
      - required:
        - pgwIpAddress
    Properties:
      pgwFqdn:
        Type: string
      pgwIpAddress:
        Reference: '#/components/schemas/IpAddress'
      smfInstanceId:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
  PduSession:
    Type: object
    Required:
      - dnn
      - smfInstanceId
      - plmnId
    Properties:
      dnn:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
      smfInstanceId:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
      plmnId:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
  PgwInfo:
    Type: object
    Required:
      - dnn
      - pgwFqdn
    Properties:
      dnn:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
      pgwFqdn:

```

```

    Type: string
  plmnId:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
SessionManagementSubscriptionData:
  Type: object
  Required:
    - singleNssai
  Properties:
    singleNssai:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
    dnnConfigurations:
      Description: A map (list of key-value pairs where Dnn, or optionally the Wildcard
DNN, serves as key) of DnnConfigurations
      Type: object
      additionalProperties:
        Reference: '#/components/schemas/DnnConfiguration'
    internalGroupIds:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/GroupId'
      minItems: 1
    vnGroupInfo:
      Type: object
      additionalProperties:
        Reference: '#/components/schemas/VnGroupData'
      minProperties: 1
    sharedVnGroupDataIds:
      Type: object
      additionalProperties:
        Reference: '#/components/schemas/SharedDataId'
      minProperties: 1
    sharedDnnConfigurationsId:
      Reference: '#/components/schemas/SharedDataId'
    odbPacketServices:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/OdbPacketServices'
    traceData:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/TraceData'
    sharedTraceDataId:
      Reference: '#/components/schemas/SharedDataId'
    expectedUeBehavioursList:
      Type: object
      additionalProperties:
        Reference: '#/components/schemas/ExpectedUeBehaviourData'
      minProperties: 1
    suggestedPacketNumDlList:
      Type: object
      additionalProperties:
        Reference: '#/components/schemas/SuggestedPacketNumDl'
      minProperties: 1
    3gppChargingCharacteristics:
      Reference: '#/components/schemas/3GppChargingCharacteristics'
  DnnConfiguration:

```

```

Type: object
Required:
  - pduSessionTypes
  - sscModes
Properties:
  pduSessionTypes:
    Reference: '#/components/schemas/PduSessionTypes'
  sscModes:
    Reference: '#/components/schemas/SscModes'
  iwkEpsInd:
    Reference: '#/components/schemas/IwkEpsInd'
  5gQosProfile:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/SubscribedDefaultQos'
  sessionAmbr:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Ambr'
  3gppChargingCharacteristics:
    Reference: '#/components/schemas/3GppChargingCharacteristics'
  staticIpAddress:
    Type: array
    Items:
      Reference: '#/components/schemas/IpAddress'
    minItems: 1
    maxItems: 2
  upSecurity:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/UpSecurity'
  pduSessionContinuityInd:
    Reference: '#/components/schemas/PduSessionContinuityInd'
  invokeNefSelection:
    Type: boolean
  niddNefId:
    Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/NefId'
  niddInfo:
    Reference: '#/components/schemas/NiddInformation'
  redundantSessionAllowed:
    Type: boolean
  acsInfo:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/AcsInfo'
  ipv4FrameRouteList:
    Type: array
    Items:
      Reference: '#/components/schemas/FrameRouteInfo'
    minItems: 1
  ipv6FrameRouteList:
    Type: array
    Items:
      Reference: '#/components/schemas/FrameRouteInfo'
    minItems: 1
  atsssAllowed:
    Type: boolean
    Default: false
NiddInformation:
  Type: object

```

```

Required:
  - afId
Properties:
  afId:
    Type: string
  gpsi:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Gpsi'
  extGroupId:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/ExternalGroupId'
IpAddress:
  Type: object
  oneOf:
    - required:
      - ipv4Addr
    - required:
      - ipv6Addr
    - required:
      - ipv6Prefix
  Properties:
    ipv4Addr:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv4Addr'
    ipv6Addr:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv6Addr'
    ipv6Prefix:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv6Prefix'
PduSessionTypes:
  Type: object
  Required:
    - defaultSessionType
  Properties:
    defaultSessionType:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/PduSessionType'
    allowedSessionTypes:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/PduSessionType'
      minItems: 1
SscModes:
  Type: object
  Required:
    - defaultSscMode
  Properties:
    defaultSscMode:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/SscMode'
    allowedSscModes:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/SscMode'
      minItems: 1
      maxItems: 2
SmsSubscriptionData:
  Type: object
  Properties:

```

```

    smsSubscribed:
      Reference: '#/components/schemas/SmsSubscribed'
    sharedSmsSubsDataId:
      Reference: '#/components/schemas/SharedDataId'
  SmsManagementSubscriptionData:
    Type: object
    Properties:
      supportedFeatures:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
      mtSmsSubscribed:
        Type: boolean
      mtSmsBarringAll:
        Type: boolean
      mtSmsBarringRoaming:
        Type: boolean
      moSmsSubscribed:
        Type: boolean
      moSmsBarringAll:
        Type: boolean
      moSmsBarringRoaming:
        Type: boolean
      sharedSmsMngDataIds:
        Type: array
        Items:
          Reference: '#/components/schemas/SharedDataId'
        minItems: 1
      traceData:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/TraceData'
  SdmSubscription:
    Type: object
    Required:
      - nfInstanceId
      - callbackReference
      - monitoredResourceUris
    Properties:
      nfInstanceId:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/NfInstanceId'
      implicitUnsubscribe:
        Type: boolean
      expires:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
      callbackReference:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
      amfServiceName:
        Reference: 'TS29510_Nnrf_NFManagement.yaml#/components/schemas/ServiceName'
      monitoredResourceUris:
        Type: array
        Items:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
        minItems: 1
      singleNssai:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'

```

```

dnn:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
subscriptionId:
  Type: string
plmnId:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
immediateReport:
  Type: boolean
  Default: false
report:
  Reference: '#/components/schemas/SubscriptionDataSets'
SdmSubsModification:
  Type: object
  Properties:
    expires:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
    monitoredResourceUris:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
      minItems: 1
ModificationNotification:
  Type: object
  Required:
    - notifyItems
  Properties:
    notifyItems:
      Type: array
      Items:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/NotifyItem'
      minItems: 1
IdTranslationResult:
  Type: object
  Required:
    - supi
  Properties:
    supportedFeatures:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
    supi:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Supi'
    gpsi:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Gpsi'
AcknowledgeInfo:
  Type: object
  Required:
    - provisioningTime
  Properties:
    sorMacIue:
      Reference: 'TS29509_Nausf_SoRProtection.yaml#/components/schemas/SorMac'
    upuMacIue:
      Reference: 'TS29509_Nausf_UPUProtection.yaml#/components/schemas/UpuMac'
    securedPacket:

```

```

    Reference: '#/components/schemas/SecuredPacket'
  provisioningTime:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
SorInfo:
  Type: object
  Properties:
    steeringContainer:
      Reference: '#/components/schemas/SteeringContainer'
    ackInd:
      Reference: 'TS29509_Nausf_SoRProtection.yaml#/components/schemas/AckInd'
    sorMacIausf:
      Reference: 'TS29509_Nausf_SoRProtection.yaml#/components/schemas/SorMac'
    countersor:
      Reference: 'TS29509_Nausf_SoRProtection.yaml#/components/schemas/CounterSor'
    provisioningTime:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
  Required:
    - ackInd
    - provisioningTime
SharedDataIds:
  Type: array
  Items:
    Reference: '#/components/schemas/SharedDataId'
  minItems: 1
  uniqueItems: true
UpuInfo:
  Type: object
  Properties:
    upuDataList:
      Type: array
      Items:
        Reference: 'TS29509_Nausf_UPUProtection.yaml#/components/schemas/UpuData'
      minItems: 1
    upuRegInd:
      Reference: '#/components/schemas/UpuRegInd'
    upuAckInd:
      Reference: 'TS29509_Nausf_UPUProtection.yaml#/components/schemas/UpuAckInd'
    upuMacIausf:
      Reference: 'TS29509_Nausf_UPUProtection.yaml#/components/schemas/UpuMac'
    counterUpu:
      Reference: 'TS29509_Nausf_UPUProtection.yaml#/components/schemas/CounterUpu'
    provisioningTime:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
  Required:
    - upuDataList
    - upuAckInd
    - upuRegInd
    - provisioningTime
SharedData:
  Type: object
  Required:
    - sharedDataId
  Properties:

```

```

sharedDataId:
  Reference: '#/components/schemas/SharedDataId'
sharedAmData:
  Reference: '#/components/schemas/AccessAndMobilitySubscriptionData'
sharedSmsSubsData:
  Reference: '#/components/schemas/SmsSubscriptionData'
sharedSmsMngSubsData:
  Reference: '#/components/schemas/SmsManagementSubscriptionData'
sharedDnnConfigurations:
  Type: object
  additionalProperties:
    Reference: '#/components/schemas/DnnConfiguration'
sharedTraceData:
  Reference: 'TS29571_CommonData.yaml#/components/schemas/TraceData'
sharedSnssaiInfos:
  Type: object
  additionalProperties:
    Reference: '#/components/schemas/SnssaiInfo'
sharedVnGroupDatas:
  Type: object
  additionalProperties:
    Reference: '#/components/schemas/VnGroupData'
  minProperties: 1
TraceDataResponse:
  Type: object
  Properties:
    traceData:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/TraceData'
    sharedTraceDataId:
      Reference: '#/components/schemas/SharedDataId'
SteeringContainer:
  oneOf:
    - type: array
      Items:
        Reference: 'TS29509_Nausf_SoRProtection.yaml#/components/schemas/SteeringInfo'

      minItems: 1
    - $ref: '#/components/schemas/SecuredPacket'
GroupIdentifiers:
  Type: object
  Properties:
    extGroupId:
      Reference: '#/components/schemas/ExtGroupId'
    intGroupId:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/GroupId'
    ueIdList:
      Type: array
      Items:
        Reference: '#/components/schemas/UeId'
      minItems: 1
VnGroupData:
  Type: object

```

```

Properties:
  pduSessionTypes:
    Reference: '#/components/schemas/PduSessionTypes'
  dnn:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
  singleNssai:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
  appDescriptors:
    Type: array
    Items:
      Reference: '#/components/schemas/AppDescriptor'
    minItems: 1
AppDescriptor:
  Type: object
  Properties:
    osId:
      Reference: 'TS29519_Policy_Data.yaml#/components/schemas/OsId'
    appId:
      Type: string
AdditionalSnssaiData:
  Type: object
  Properties:
    requiredAuthnAuthz:
      Type: boolean
AppPortId:
  Type: object
  Properties:
    destinationPort:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uint16'
    originatorPort:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uint16'
LcsPrivacyData:
  Type: object
  Properties:
    lpi:
      Reference: '#/components/schemas/Lpi'
    unrelatedClasses:
      Type: array
      Items:
        Reference: '#/components/schemas/UnrelatedClass'
      minItems: 1
    plmnOperatorClasses:
      Type: array
      Items:
        Reference: '#/components/schemas/PlmnOperatorClass'
      minItems: 1
Lpi:
  Type: object
  Required:
    - locationPrivacyInd
  Properties:
    locationPrivacyInd:

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        Reference: '#/components/schemas/LocationPrivacyInd'
    validTimePeriod:
        Reference: '#/components/schemas/ValidTimePeriod'
UnrelatedClass:
    Type: object
    Required:
        - nonExternalUnrelatedClass
    Properties:
        nonExternalUnrelatedClass:
            Reference: '#/components/schemas/NonExternalUnrelatedClass'
        externalUnrelatedClass:
            Reference: '#/components/schemas/ExternalUnrelatedClass'
        serviceTypeUnrelatedClasses:
            Type: array
            Items:
                Reference: '#/components/schemas/ServiceTypeUnrelatedClass'
            minItems: 1
PlmnOperatorClass:
    Type: object
    Required:
        - lcsClientClass
        - lcsClientIds
    Properties:
        lcsClientClass:
            Reference: '#/components/schemas/LcsClientClass'
        lcsClientIds:
            Type: array
            Items:
                Reference: '#/components/schemas/LcsClientId'
            minItems: 1
ValidTimePeriod:
    Type: object
    Properties:
        startTime:
            Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
        endTime:
            Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
NonExternalUnrelatedClass:
    Properties:
        lcsClientNonExternals:
            Type: array
            Items:
                Reference: '#/components/schemas/LcsClientNonExternal'
            minItems: 1
        afNonExternals:
            Type: array
            Items:
                Reference: '#/components/schemas/AfNonExternal'
            minItems: 1
LcsClientNonExternal:
    Type: object
    Required:

```

```

- lcsClientId
Properties:
  lcsClientId:
    Reference: '#/components/schemas/LcsClientId'
  allowedGeographicArea:
    Type: array
    Items:
      Reference: 'TS29572_Nlmf_Location.yaml#/components/schemas/GeographicArea'
    minItems: 1
  privacyCheckRelatedAction:
    Reference: '#/components/schemas/PrivacyCheckRelatedAction'
  codeWordInd:
    Reference: '#/components/schemas/CodeWordInd'
  validTimePeriod:
    Reference: '#/components/schemas/ValidTimePeriod'
AfNonExternal:
  Type: object
  Required:
    - afId
  Properties:
    afId:
      Type: string
    allowedGeographicArea:
      Type: array
      Items:
        Reference: 'TS29572_Nlmf_Location.yaml#/components/schemas/GeographicArea'
      minItems: 1
    privacyCheckRelatedAction:
      Reference: '#/components/schemas/PrivacyCheckRelatedAction'
    codeWordInd:
      Reference: '#/components/schemas/CodeWordInd'
    validTimePeriod:
      Reference: '#/components/schemas/ValidTimePeriod'
ExternalUnrelatedClass:
  Properties:
    lcsClientExternals:
      Type: array
      Items:
        Reference: '#/components/schemas/LcsClientExternal'
      minItems: 1
    afExternals:
      Type: array
      Items:
        Reference: '#/components/schemas/AfExternal'
      minItems: 1
    lcsClientGroupExternals:
      Type: array
      Items:
        Reference: '#/components/schemas/LcsClientGroupExternal'
      minItems: 1
AfExternal:
  Type: object

```

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Properties:
  afId:
    Type: string
  allowedGeographicArea:
    Type: array
    Items:
      Reference: 'TS29572_Nlmf_Location.yaml#/components/schemas/GeographicArea'
    minItems: 1
  privacyCheckRelatedAction:
    Reference: '#/components/schemas/PrivacyCheckRelatedAction'
  validTimePeriod:
    Reference: '#/components/schemas/ValidTimePeriod'
LcsClientExternal:
  Type: object
  Properties:
    allowedGeographicArea:
      Type: array
      Items:
        Reference: 'TS29572_Nlmf_Location.yaml#/components/schemas/GeographicArea'
      minItems: 1
    privacyCheckRelatedAction:
      Reference: '#/components/schemas/PrivacyCheckRelatedAction'
    validTimePeriod:
      Reference: '#/components/schemas/ValidTimePeriod'
LcsClientGroupExternal:
  Type: object
  Properties:
    lcsClientGroupId:
      Reference: '#/components/schemas/ExtGroupId'
    allowedGeographicArea:
      Type: array
      Items:
        Reference: 'TS29572_Nlmf_Location.yaml#/components/schemas/GeographicArea'
      minItems: 1
    privacyCheckRelatedAction:
      Reference: '#/components/schemas/PrivacyCheckRelatedAction'
    validTimePeriod:
      Reference: '#/components/schemas/ValidTimePeriod'
ServiceTypeUnrelatedClass:
  Type: object
  Required:
    - serviceType
  Properties:
    serviceType:
      Reference: 'TS29572_Nlmf_Location.yaml#/components/schemas/LcsServiceType'
    allowedGeographicArea:
      Type: array
      Items:
        Reference: 'TS29572_Nlmf_Location.yaml#/components/schemas/GeographicArea'
      minItems: 1
    privacyCheckRelatedAction:
      Reference: '#/components/schemas/PrivacyCheckRelatedAction'

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    codeWordInd:
      Reference: '#/components/schemas/CodeWordInd'
    validTimePeriod:
      Reference: '#/components/schemas/ValidTimePeriod'
  LcsMoData:
    Type: object
    Required:
      - allowedServiceClasses
    Properties:
      allowedServiceClasses:
        Type: array
        Items:
          Reference: '#/components/schemas/LcsMoServiceClass'
        minItems: 1
  EcRestrictionData:
    Type: object
    Properties:
      ecModeARestricted:
        Type: boolean
      ecModeBRestricted:
        Type: boolean
  ExpectedUeBehaviourData:
    Type: object
    Properties:
      stationaryIndication:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/StationaryIndication'
      communicationDurationTime:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/DurationSec'
      periodicTime:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/DurationSec'
      scheduledCommunicationTime:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/ScheduledCommunicationTime'

      scheduledCommunicationType:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/ScheduledCommunicationType'

    expectedUmts:
      Type: array
      Items:
        Reference: 'TS29503_Nudm_PP.yaml#/components/schemas/LocationArea'
      minItems: 1
      Description: Identifies the UE's expected geographical movement. The attribute
is only applicable in 5G.
    trafficProfile:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/TrafficProfile'
    batteryIndication:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/BatteryIndication'
    validityTime:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
  MaximumResponseTime:
    Type: object
    Required:

```

```

    - maximumResponseTime
Properties:
  maximumResponseTime:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DurationSec'
  snssai:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
  dnn:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
  validityTime:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
MaximumLatency:
  Type: object
  Required:
    - maximumLatency
  Properties:
    maximumLatency:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/DurationSec'
    snssai:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Snssai'
    dnn:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Dnn'
    validityTime:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
SuggestedPacketNumDl:
  Type: object
  Required:
    - suggestedPacketNumDl
  Properties:
    suggestedPacketNumDl:
      Type: integer
      Minimum: 1
    validityTime:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/DateTime'
FrameRouteInfo:
  Type: object
  Properties:
    ipv4Mask:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv4AddrMask'
    ipv6Prefix:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv6Prefix'
SorUpdateInfo:
  Type: object
  Required:
    - vplmnId
  Properties:
    vplmnId:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/PlmnId'
EnhancedCoverageRestrictionData:
  Type: object
  Properties:
    plmnEcInfoList:
      Type: array

```

```

        Items:
          Reference: 'TS29503_Nudm_PP.yaml#/components/schemas/PlmnEcInfo'
          minItems: 1
    EdrxParameters:
      Type: object
      Required:
        - ratType
        - edrxValue
      Properties:
        ratType:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/RatType'
        edrxValue:
          Type: string
          Pattern: '^([0-1]{4})$'
    PtwParameters:
      Type: object
      Required:
        - operationMode
        - ptwValue
      Properties:
        operationMode:
          Reference: '#/components/schemas/OperationMode'
        ptwValue:
          Type: string
          Pattern: '^([0-1]{4})$'
    UeId:
      Type: object
      Required:
        - supi
      Properties:
        supi:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/Supi'
        gpsiList:
          Type: array
          Items:
            Reference: 'TS29571_CommonData.yaml#/components/schemas/Gpsi'
          minItems: 1
# SIMPLE TYPES:
    UeUsageType:
      Type: integer
    MpsPriorityIndicator:
      Type: boolean
    McsPriorityIndicator:
      Type: boolean
    DnnIndicator:
      Type: boolean
    LboRoamingAllowed:
      Type: boolean
    SmsSubscribed:
      Type: boolean
    3GppChargingCharacteristics:
      Type: string
    DlPacketCount:

```

```

    Type: integer
    Minimum: -1
MicoAllowed:
    Type: boolean
SharedDataId:
    Type: string
    Pattern: '^[0-9]{5,6}-.+$$'
IwkEpsInd:
    Type: boolean
SecuredPacket:
    Type: string
    format: base64
UpuRegInd:
    Type: boolean
ExtGroupId:
    Type: string
    Pattern: '^extgroupid-[^@]+@[^@]+$$'
NbIoTUEPriority:
    Type: integer
CodeWord:
    Type: string
AfId:
    Type: string
LcsClientId:
    Type: string
# ENUMS:
DataSetName:
    anyOf:
        - type: string
          enum:
            - AM
            - SMF_SEL
            - UEC_SMF
            - UEC_SMSF
            - SMS_SUB
            - SM
            - TRACE
            - SMS_MNG
            - LCS_PRIVACY
            - LCS_MO
        - type: string
PduSessionContinuityInd:
    anyOf:
        - type: string
          enum:
            - MAINTAIN_PDUSESSION
            - RECONNECT_PDUSESSION
            - RELEASE_PDUSESSION
        - type: string
LocationPrivacyInd:
    anyOf:
        - type: string
          enum:
            - LOCATION_DISALLOWED
            - LOCATION_ALLOWED
        - type: string

```

```

PrivacyCheckRelatedAction:
  anyOf:
    - type: string
    enum:
      - LOCATION_NOT_ALLOWED
      - LOCATION_ALLOWED_WITH_NOTIFICATION
      - LOCATION_ALLOWED_WITHOUT_NOTIFICATION
      - LOCATION_ALLOWED_WITHOUT_RESPONSE
      - LOCATION_RESTRICTED_WITHOUT_RESPONSE
    - type: string
LcsClientClass:
  anyOf:
    - type: string
    enum:
      - BROADCAST_SERVICE
      - OM_IN_HPLMN
      - OM_IN_VPLMN
      - ANONYMOUS_LOCATION_SERVICE
      - SPECIFIC_SERVICE
    - type: string
LcsMoServiceClass:
  anyOf:
    - type: string
    enum:
      - BASIC_SELF_LOCATION
      - AUTONOMOUS_SELF_LOCATION
      - TRANSFER_TO_THIRD_PARTY
    - type: string
OperationMode:
  anyOf:
    - type: string
    enum:
      - WB_S1
      - NB_S1
      - WB_N1
      - NB_N1
    - type: string
SorUpdateIndicator:
  anyOf:
    - type: string
    enum:
      - INITIAL_REGISTRATION
      - EMERGENCY_REGISTRATION
    - type: string
CodeWordInd:
  anyOf:
    - type: string
    enum:
      - CODEWORD_CHECK_IN_UE
      - CODEWORD_CHECK_IN_GMLC
    - type: string

```

External Docs

Description: 3GPP TS 29.503 Unified Data Management Services, version 16.3.0

URL: 'http://www.3gpp.org/ftp/Specs/archive/29_series/29.503/'