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**Universal Mobile Telecommunications System (UMTS);
LTE;
5G;**

**Non-Access Stratum (NAS)
configuration Management Object (MO)
(3GPP TS 24.368 version 16.4.0 Release 16)**



Reference

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1 Scope

The present document defines a Management Object (MO) that can be used to configure the UE with parameters related to Non-Access Stratum (NAS) functionality.

The MO is compatible with the OMA Device Management (DM) protocol specifications, version 1.2 and upwards, and is defined using the OMA DM Device Description Framework (DDF) as described in the Enabler Release Definition OMA-ERELD-DM-V1_2 [2].

The MO consists of relevant parameters for NAS related configuration of a UE.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

- [1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".
- [2] OMA-ERELD-DM-V1_2: "Enabler Release Definition for OMA Device Management".
- [3] 3GPP TS 23.122: "Non-Access-Stratum (NAS) functions related to Mobile Station (MS) in idle mode".
- [4] 3GPP TS 24.008: "Mobile radio interface Layer 3 specification; Core network protocols; Stage 3".
- [5] 3GPP TS 24.301: "Non-Access-Stratum (NAS) protocol for Evolved Packet System (EPS); Stage 3".
- [5A] 3GPP TS 23.401: "GPRS enhancements for E-UTRAN access".
- [6] 3GPP TS 31.102: "Characteristics of the USIM Application".
- [7] 3GPP TS 31.111: "Universal Subscriber Identity Module (USIM) Application Toolkit (USAT)".
- [8] 3GPP TS 36.101: "Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) radio transmission and reception".
- [9] 3GPP TS 23.032: "Universal Geographical Area Description (GAD)".
- [10] 3GPP TS 36.304: "Evolved Universal Terrestrial Radio Access (E-UTRA); User Equipment (UE) procedures in idle mode".
- [11] 3GPP TS 24.501: "Non-Access-Stratum (NAS) protocol for 5G System (5GS); Stage 3".
- [12] 3GPP TS 23.221: "Architectural requirements".
- [13] 3GPP TS 23.003: "Numbering, addressing and identification".
- [14] 3GPP TS 36.331: "Evolved Universal Terrestrial Radio Access (E-UTRA); Radio Resource Control (RRC) protocol specification".
- [15] 3GPP TS 38.331: "NR; Radio Resource Control (RRC); Protocol Specification".
- [16] 3GPP TS 23.501: "System Architecture for the 5G System; Stage 2".

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in 3GPP TR 21.905 [1] apply.

Reserved: The value "reserved" is assigned to a code point to indicate that it is reserved for future use. The present document specifies no processing rules for handling of "reserved" value by the receiving entity.

For the purposes of the present document, the following terms and definitions given in 3GPP TS 23.122 [6] apply:

EHPLMN
HPLMN
VPLMN

For the purposes of the present document, the following terms and definitions given in 3GPP TS 23.501 [16] apply:

SNPN access mode
Stand-alone Non-Public Network

For the purposes of the present document, the following terms and definitions given in 3GPP TS 24.301 [5] apply:

In NB-S1 mode

For the purposes of the present document, the following terms and definitions given in 3GPP TS 23.221 [12] apply:

Restricted Local Operator Services

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TR 21.905 [1] and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in 3GPP TR 21.905 [1].

ACL	Access Control List
DDF	Device Description Framework
DM	Device Management
EARFCN	E-UTRA Absolute Radio Frequency Channel Number
MO	Management Object
MTC	Machine-Type Communications
NAS	Non-Access Stratum
NB-IoT	Narrowband IoT
NID	Network Identifier
OMA	Open Mobile Alliance
RLOS	Restricted Local Operator Services
SNPN	Stand-alone Non-Public Network

4 NAS configuration MO

The NAS configuration MO is used to manage configuration parameters related to NAS functionality for a UE supporting provisioning of such information. The presence and format of the non-access stratum configuration file on the USIM is specified in 3GPP TS 31.102 [6].

The MO identifier is: urn:oma:mo:ext-3gpp-nas-config:1.0.

The OMA DM Access Control List (ACL) property mechanism (see OMA-ERELD-DM-V1_2 [2]) may be used to grant or deny access rights to OMA DM servers in order to modify nodes and leaf objects of the NAS configuration MO.

The following nodes and leaf objects are possible in the NAS configuration MO as described in figure 4-1:

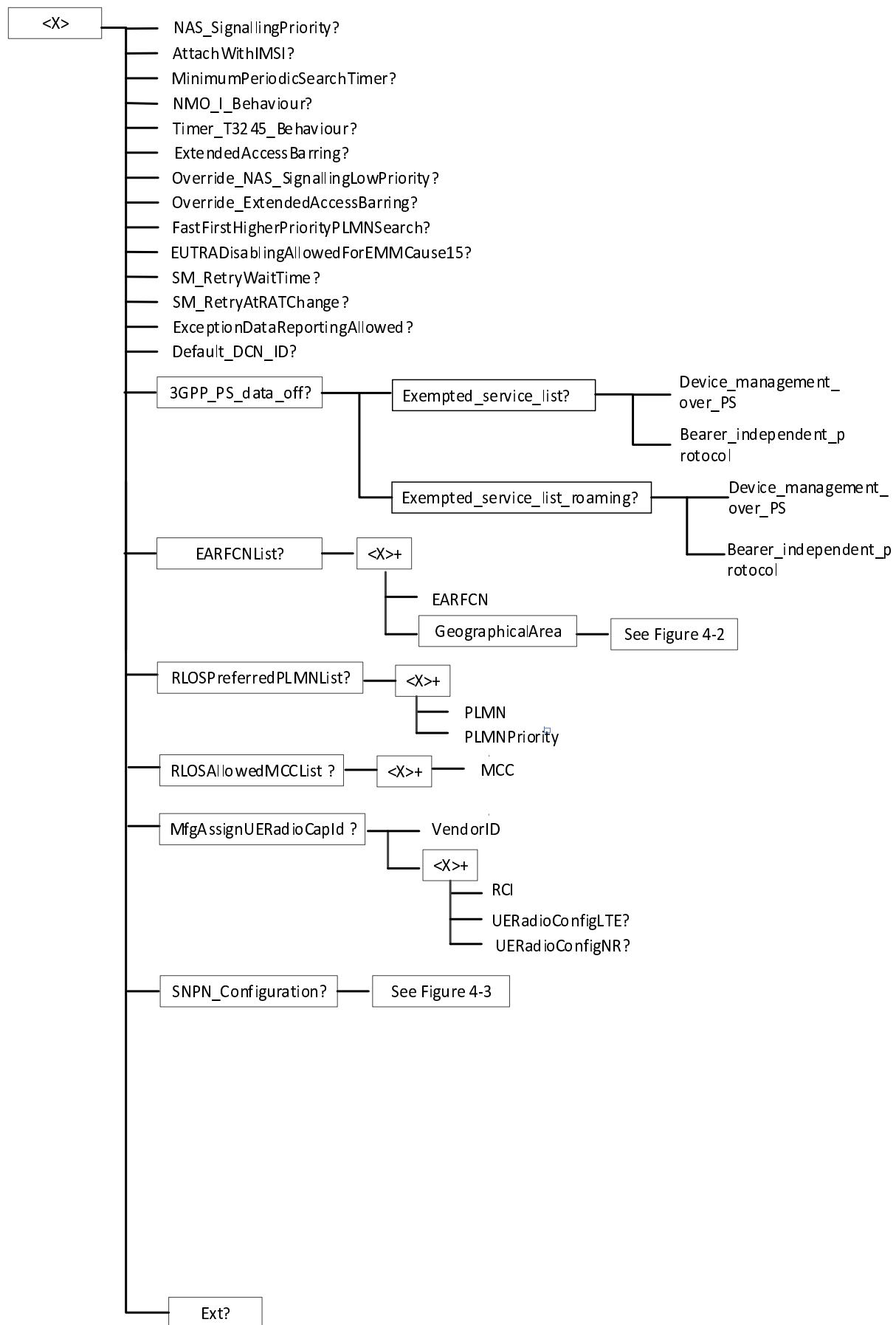
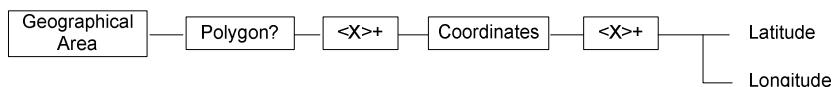
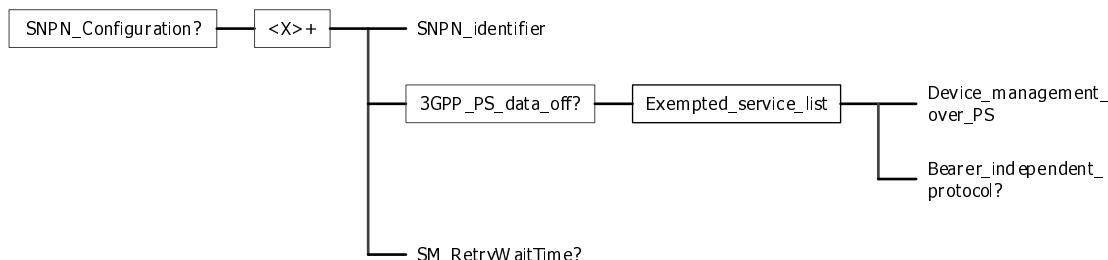


Figure 4-1: The NAS configuration Management Object (1 of 3)**Figure 4-2: The NAS configuration Management Object (2 of 3)****Figure 4-3: The NAS configuration Management Object (3 of 3)**

5 NAS configuration MO parameters

5.1 General

This clause describes the parameters for the NAS configuration MO.

5.2 Node: <X>

This interior node acts as a placeholder for zero or one accounts for a fixed node.

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get
- Values: N/A

5.3 <X>/NAS_SignallingPriority

The NAS_SignallingPriority leaf indicates a NAS signalling priority which is used to determine the setting of the low priority indicator to be included in NAS messages as specified in 3GPP TS 24.008 [4] and 3GPP TS 24.301 [5].

- Occurrence: ZeroOrOne
- Format: int
- Access Types: Get, Replace
- Values: <NAS signalling priority>

Possible values for the NAS signalling priority are specified in table 5.3.1.

Table 5.3.1: Values of NAS_SignallingPriority leaf

Value	Description
0	Reserved
1	NAS signalling low priority
2-255	Reserved

5.4 <X>/AttachWithIMSI

The AttachWithIMSI leaf indicates whether attach with IMSI is performed when moving to a non-equivalent PLMN as specified in 3GPP TS 24.008 [4] and 3GPP TS 24.301 [5].

- Occurrence: ZeroOrOne
- Format: bool
- Access Types: Get, Replace
- Values: 0, 1
 - 0 Indicates that normal behaviour is applied.
 - 1 Indicates that attach with IMSI is performed when moving to a non-equivalent PLMN.

The default value 0 applies if this leaf is not provisioned.

5.5 <X>/MinimumPeriodicSearchTimer

The MinimumPeriodicSearchTimer leaf gives a minimum value in minutes for the timer T controlling the periodic search for higher prioritized PLMNs as specified in 3GPP TS 23.122 [3].

- Occurrence: ZeroOrOne
- Format: int
- Access Types: Get, Replace
- Values: 0-255

The default value 0 applies if this leaf is not provisioned.

5.6 <X>/NMO_I_Behaviour

The NMO_I_Behaviour leaf indicates whether the "NMO I, Network Mode of Operation I" indication as specified in 3GPP TS 24.008 [4] is applied by the UE.

- Occurrence: ZeroOrOne
- Format: bool
- Access Types: Get, Replace
- Values: 0, 1
 - 0 Indicates that the "NMO I, Network Mode of Operation I" indication is not used.
 - 1 Indicates that the "NMO I, Network Mode of Operation I" indication is used, if available.

The default value 0 applies if this leaf is not provisioned.

5.7 <X>/Timer_T3245_Behaviour

The Timer_T3245_Behaviour leaf indicates whether the timer T3245 and the related functionality as specified in 3GPP TS 24.008 [4], 3GPP TS 24.301 [5] , and 3GPP TS 24.501 [11] is used by the UE.

- Occurrence: ZeroOrOne
- Format: bool
- Access Types: Get, Replace
- Values: 0, 1
 - 0 Indicates that the timer T3245 is not used.
 - 1 Indicates that the timer T3245 is used.

The default value 0 applies if this leaf is not provisioned.

5.8 <X>/ExtendedAccessBarring

The ExtendedAccessBarring leaf indicates whether the extended access barring is applicable for the UE as specified in 3GPP TS 24.008 [4] and 3GPP TS 24.301 [5].

- Occurrence: ZeroOrOne
- Format: bool
- Access Types: Get, Replace
- Values: 0, 1
 - 0 Indicates that the extended access barring is not applied for the UE.
 - 1 Indicates that the extended access barring is applied for the UE.

The default value 0 applies if this leaf is not provisioned.

5.9 <X>/Override_NAS_SignallingLowPriority

The Override_NAS_SignallingLowPriority leaf indicates whether the UE can override the NAS_SignallingPriority leaf node configured to NAS signalling low priority.

The setting of the low priority indicator included in NAS messages when the Override_NAS_SignallingPriority leaf exists is specified in 3GPP TS 24.008 [4] and 3GPP TS 24.301 [5].

- Occurrence: ZeroOrOne
- Format: bool
- Access Types: Get, Replace
- Values: 0, 1
 - 0 Indicates that the UE cannot override the NAS signalling low priority indicator
 - 1 Indicates that the UE can override the NAS signalling low priority indicator

The default value 0 applies if this leaf is not provisioned.

If provisioned, this leaf is set to the same value as that provisioned for the Override_ExtendedAccessBarring leaf, e.g., if the UE is configured to override the NAS signalling low access priority indicator, then UE is also configured to override extended access class barring (see 3GPP TS 23.401 [5A]).

5.10 <X>/Override_ExtendedAccessBarring

The Override_ExtendedAccessBarring leaf indicates whether the UE can override ExtendedAccessBarring leaf node configured to extended access barring.

The handling of extended access barring for the UE when the Override_ExtendedAccessBarring leaf exists is specified in 3GPP TS 24.008 [4] and 3GPP TS 24.301 [5].

- Occurrence: ZeroOrOne
 - Format: bool
 - Access Types: Get, Replace
 - Values: 0, 1
- 0 Indicates that the UE cannot override extended access barring
 1 Indicates that the UE can override extended access barring

The default value 0 applies if this leaf is not provisioned.

If provisioned, this leaf is set to the same value as that provisioned for the Override_NAS_SignallingLowPriority leaf, e.g., if the UE is configured to override the NAS signalling low access priority indicator, then UE is also configured to override extended access class barring (see 3GPP TS 23.401 [5A]).

5.10a <X>/FastFirstHigherPriorityPLMNSearch

The FastFirstHigherPriorityPLMNSearch leaf indicates whether the UE performs the first search for a higher priority PLMN after at least 2 minutes and at most T minutes upon entering a VPLMN as specified in 3GPP TS 23.122 [3].

- Occurrence: ZeroOrOne
 - Format: bool
 - Access Types: Get, Replace
 - Values: 0, 1
- 0 Indicates that the Fast First Higher Priority PLMN Search is disabled, see 3GPP TS 23.122 [3]
 1 Indicates that the Fast First Higher Priority PLMN Search is enabled, see 3GPP TS 23.122 [3]

The default value 0 applies if this leaf is not provisioned.

5.10b <X>/EUTRADisablingAllowedForEMMCause15

The EUTRADisablingAllowedForEMMCause15 leaf indicates whether the UE is allowed to disable the E-UTRA capability when it receives the Extended EMM cause IE with value "E-UTRAN not allowed" as described in 3GPP TS 24.301 [5].

- Occurrence: ZeroOrOne
 - Format: bool
 - Access Types: Get, Replace
 - Values: 0, 1
- 0 Indicates that "E-UTRA Disabling for EMM cause #15" is disabled, see 3GPP TS 24.301 [5]
 1 Indicates that "E-UTRA Disabling for EMM cause #15" is enabled, see 3GPP TS 24.301 [5]

The default value 0 applies if this leaf is not provisioned.

5.10c <X>/SM_RetryWaitTime

The SM_RetryWaitTime leaf indicates a configured UE retry wait time value applicable when in HPLMN or EHPLMN (see 3GPP TS 23.122 [3]) for controlling the UE session management retry behaviour when prior session management request was rejected by the network with cause value #8, #27, #32, #33 as specified in 3GPP TS 24.008 [4] and 3GPP TS 24.301 [5], or when prior session management request was rejected by the network with cause value #8, #27, #32, #33, #70 as specified in 3GPP TS 24.501 [11].

- Occurrence: ZeroOrOne
- Format: int
- Access Types: Get, Replace
- Values: 0-255

The default value of 12 minutes applies if this leaf is not provisioned.

SM_RetryWaitTime shall be coded in the same format as the value part of GPRS Timer 3 IE as specified in Table 10.5.163a/3GPP TS 24.008 [4] converted into a decimal value.

5.10d <X>/SM_RetryAtRATChange

The SM_RetryAtRATChange leaf indicates the UE's retry behaviour when in HPLMN or EHPLMN (see 3GPP TS 23.122 [3]) after inter-system change between S1 mode and A/Gb or Iu mode or N1 mode as specified in 3GPP TS 24.008 [4], 3GPP TS 24.301 [5] and 3GPP TS 24.501 [11].

- Occurrence: ZeroOrOne
 - Format: bool
 - Access Types: Get, Replace
 - Values: 0, 1
- 0 Indicates that the UE is allowed to retry the corresponding ESM procedure in S1 mode if an SM procedure was rejected in A/Gb or Iu mode or a 5GSM procedure was rejected in N1 mode, and to retry the corresponding SM procedure in A/Gb or Iu mode or the corresponding 5GSM procedure in N1 mode if an ESM procedure was rejected in S1 mode, see 3GPP TS 24.008 [4], 3GPP TS 24.301 [5] and 3GPP TS 24.501 [11]
 - 1 Indicates that the UE is not allowed to retry an SM procedure or the corresponding ESM procedure or the corresponding 5GSM procedure in any of the modes: A/Gb, Iu, S1 and N1 mode, see 3GPP TS 24.008 [4], 3GPP TS 24.301 [5] and 3GPP TS 24.501 [11]

The default value 0 applies if this leaf is not provisioned.

5.10e <X>/Default_DCN_ID

The Default_DCN_ID leaf indicates the default DCN-ID.

- Occurrence: ZeroOrOne
- Format: int
- Access Types: Get, Replace
- Values: 0-65535

Default_DCN_ID shall be coded as DCN-ID as specified in 3GPP TS 23.003 [5], converted into a decimal value.

5.10f /<X>/3GPP_PS_data_off

The interior node contains configuration parameters for 3GPP PS data off.

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.10g /<X>/3GPP_PS_data_off/Exempted_service_list

The interior node contains one or more services which are exempted of 3GPP PS data off when the UE is in its HPLMN or EHPLMN. If the Exempted_service_list_roaming node is not present, this list is also used when the UE is in the VPLMN.

- Occurrence: One
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.10h Void

5.10i

/<X>/3GPP_PS_data_off/Exempted_service_list/Device_management_over_PS

The Device_management_over_PS leaf indicates whether Device management over PS is a 3GPP PS data off exempt service when the UE is in its HPLMN or EHPLMN.

- Occurrence: One
 - Format: bool
 - Access Types: Get, Replace
 - Values: 0, 1
- 0 - Indicates that the device management over PS is not a 3GPP PS data off exempt service when the UE is in its HPLMN or EHPLMN.
- 1 - Indicates that the device management over PS is a 3GPP PS data off exempt service when the UE is in its HPLMN or EHPLMN.

5.10j

/<X>/3GPP_PS_data_off/Exempted_service_list/Bearer_independent_protocol

The Bearer_independent_protocol leaf indicates whether Bearer independent protocol is a 3GPP PS data off exempt service when the UE is in its HPLMN or EHPLMN.

- Occurrence: One

- Format: bool
- Access Types: Get, Replace
- Values: 0, 1
 - 0 - Indicates that the bearer independent protocol is not a 3GPP PS data off exempt service when the UE is in its HPLMN or EHPLMN (see 3GPP TS 31.111 [7]).
 - 1 - Indicates that the bearer independent protocol is a 3GPP PS data off exempt service when the UE is in its HPLMN or EHPLMN (see 3GPP TS 31.111 [7]).

5.10k <X>/ExceptionDataReportingAllowed

For the UE in NB-S1 mode, the ExceptionDataReportingAllowed leaf indicates whether the UE is allowed to use the RRC establishment cause mo-ExceptionData, as specified in 3GPP TS 24.301 [5].

For the UE in NB-N1 mode, the ExceptionDataReportingAllowed leaf indicates whether the UE is allowed to use the RRC establishment cause mo-ExceptionData, as specified in 3GPP TS 24.501 [11].

- Occurrence: ZeroOrOne
- Format: bool
- Access Types: Get, Replace
- Values: 0, 1
 - 0 Indicates that the UE is not allowed to use the RRC establishment cause mo-ExceptionData.
 - 1 Indicates that the UE is allowed to use the RRC establishment cause mo-ExceptionData.

If this leaf is not provisioned, the value of 0 is used.

5.10l /<X>/3GPP_PS_data_off/Exempted_service_list_roaming

The interior node contains one or more services which are exempted of 3GPP PS data off when the UE is in the VPLMN. If this node is not present, the Exempted_service_list is used when the UE is in the VPLMN.

- Occurrence: One
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.10m

/<X>/3GPP_PS_data_off/Exempted_service_list_roaming/Device_management_over_PS

The Device_management_over_PS leaf indicates whether Device management over PS is a 3GPP PS data off exempt service when the UE is in the VPLMN.

- Occurrence: One
- Format: bool
- Access Types: Get, Replace
- Values: 0, 1

0 - Indicates that the device management over PS is not a 3GPP PS data off exempt service when the UE is in the VPLMN.

1 - Indicates that the device management over PS is a 3GPP PS data off exempt service when the UE is in the VPLMN.

5.10n

/<X>/3GPP_PS_data_off/Exempted_service_list_roaming/Bearer_independent_protocol

The Bearer_independent_protocol leaf indicates whether Bearer independent protocol is a 3GPP PS data off exempt service when the UE is in the VPLMN.

- Occurrence: One
- Format: bool
- Access Types: Get, Replace
- Values: 0, 1

0 - Indicates that the bearer independent protocol is not a 3GPP PS data off exempt service when the UE is in the VPLMN (see 3GPP TS 31.111 [7]).

1 - Indicates that the bearer independent protocol is a 3GPP PS data off exempt service when the UE is in the VPLMN (see 3GPP TS 31.111 [7]).

5.10o /<X>/EARFCNList

This interior node contains a list of EARFCNs configured to the UE for initial cell search of MTC carrier or NB-IoT carrier as specified in 3GPP TS 36.304 [10].

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.10p /<X>/EARFCNList/<X>

This interior node acts as a placeholder for one or more EARFCNs and associated geographical area configured to the UE for initial cell search of MTC carrier or NB-IoT carrier as specified in 3GPP TS 36.304 [10].

- Occurrence: OneOrMore
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.10q /<X>/EARFCNList/<X>/EARFCN

The EARFCN leaf contains an EARFCN configured to the UE for initial cell search of MTC carrier or NB-IoT carrier as specified in 3GPP TS 36.304 [10].

- Occurrence: One

- Format: chr
- Access Types: Get, Replace
- Values: <EARFCN>

The format of the EARFCN is defined by 3GPP TS 36.101 [8].

5.10r /<X>/EARFCNList/<X>/GeographicalArea

The GeographicalArea node acts as a placeholder for the geographical area associated with an EARFCN configured to the UE. The EARFCN is used by the UE for initial cell search of MTC carrier or NB-IoT carrier as specified in 3GPP TS 36.304 [10] when the UE is within the associated geographical area.

- Occurrence: One
- Format: Node
- Access Types: Get, Replace
- Values: N/A

5.10s /<X>/EARFCNList/<X>/GeographicalArea/Polygon

The Polygon node acts as a placeholder for polygon geographical area descriptions.

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.10t /<X>/EARFCNList/<X>/GeographicalArea/Polygon/<X>

This interior node acts as a placeholder for one or more polygon geographical area descriptions.

- Occurrence: OneOrMore
- Format: node
- Access Types: Get, Replace
- Values: <N/A >

5.10u /<X>/EARFCNList/<X>/GeographicalArea/Polygon/<X>/Coordinates

The Coordinates node acts as a placeholder for geographical coordinates outlining the borders of a polygon geographical area.

- Occurrence: One
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.10v /<X>/EARFCNList/<X>/GeographicalArea/Polygon/<X>/Coordinates/<X>

This interior node acts as a placeholder for one or more geographical coordinates.

- Occurrence: OneOrMore
- Format: node
- Access Types: Get, Replace
- Values: <N/A>

NOTE: The upper limit of 15 specified in 3GPP TS 23.032 [9] for the number of points in a polygon shape does not apply to the number of coordinates in a geographical area described as a polygon for initial cell search of MTC or NB-IoT carrier.

5.10w /<X>/EARFCNList/<X>/GeographicalArea/Polygon/<X>/Coordinates/<X>/Latitude

The Latitude leaf contains the latitude of a geographical coordinate outlining the border of the polygon geographical area.

- Occurrence: One
- Format: bin
- Access Types: Get, Replace
- Values: <Latitude>

The Latitude is defined in subclause 6.1 of 3GPP TS 23.032 [9].

5.10x /<X>/EARFCNList/<X>/GeographicalArea/Polygon/<X>/Coordinates/<X>/Longitude

The Longitude leaf contains the longitude of a geographical coordinate outlining the border of the polygon geographical area.

- Occurrence: One
- Format: bin
- Access Types: Get, Replace
- Values: <Longitude>

The Longitude is defined in subclause 6.1 of 3GPP TS 23.032 [9].

5.10y /<X>/RLOSPREFERREDPLMNList

This interior node contains a list of RLOS preferred PLMNs configured to the UE for selection of a PLMN offering access to RLOS as specified in 3GPP TS 23.122 [3].

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.10z /<X>/RLOSPreferredPLMNLList/<X>

This interior node acts as a placeholder for one or more RLOS preferred PLMNs configured to the UE for selection of a PLMN offering access to RLOS as specified in 3GPP TS 23.122 [3].

- Occurrence: OneOrMore
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.10za /<X>/RLOSPreferredPLMNLList/<X>/PLMN

The PLMN leaf indicates the PLMN code of the RLOS preferred PLMN.

- Occurrence: One
- Format: chr
- Access Types: Get, Replace
- Values: <PLMN>

The PLMN is in the format defined by 3GPP TS 23.003 [13], with each digit of the MCC and MNC encoded as an ASCII character.

5.10zb/<X>/RLOSPreferredPLMNLList/<X>/PLMNPriority

The PLMNPriority leaf represents the priority of the RLOS preferred PLMN in the RLOS preferred PLMN list and is represented as a numerical value.

- Occurrence: One
- Format: int
- Access Types: Get, Replace
- Values: <PLMN Priority>

The UE shall treat the PLMN with the lowest PLMNPriority value as the PLMN having the highest priority. If the UE finds multiple PLMNs with the same priority, the choice of the PLMN is UE implementation specific.

5.10zc /<X>/MfgAssignUERadioCapId

This interior node contains a list of manufacturer-assigned UE radio capability IDs configured in the UE as an alternative for signalling the radio capabilities container as specified in 3GPP TS 24.501 [11].

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.10zca/<X>/MfgAssignUERadioCapId/VendorID

The VendorID leaf contains the Vendor ID for the manufacturer-assigned UE radio capability IDs configured in the UE.

- Occurrence: One

- Format: chr
- Access Types: Get, Replace
- Values: <VendorID>

The format of the Vendor ID is defined by 3GPP TS 23.003 [13].

5.10zd /<X>/MfgAssignUERadioCapId/<X>

This interior node acts as a placeholder for one or more Radio Configuration Identifiers (RCI) which identifies the UE radio configuration for which the manufacturer-assigned UE radio capability IDs applicable as specified in 3GPP TS 23.003 [13].

- Occurrence: OneOrMore
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.10ze /<X>/MfgAssignUERadioCapId/<X>/RCI

The RCI leaf contains the Radio Configuration Identifier (RCI) which identifies the UE radio configuration as specified in 3GPP TS 23.003 [13].

- Occurrence: One
- Format: chr
- Access Types: Get, Replace
- Values: <RCI>

The format of the RCI is defined by 3GPP TS 23.003 [13].

5.10zf /<X>/MfgAssignUERadioCapId/<X>/UERadioConfigLTE

The UERadioConfigLTE leaf contains the UE radio capabilities associated with the Radio Configuration Identifier (RCI), encoded as a binary string as specified in 3GPP TS 36.331 [14].

- Occurrence: ZeroOrOne
- Format: bin
- Access Types: Get, Replace
- Values: <UERadioConfigLTE>

The UERadioConfigLTE is defined as the *UE-CapabilityRAT-ContainerList* in clause 6.3.6 of 3GPP TS 36.331 [14].

5.10zg /<X>/MfgAssignUERadioCapId/<X>/UERadioConfigNR

The UERadioConfigNR leaf contains the UE radio capabilities associated with the Radio Configuration Identifier (RCI), encoded as a binary string as specified in 3GPP TS 38.331 [15].

- Occurrence: ZeroOrOne
- Format: bin
- Access Types: Get, Replace

- Values: <UERadioConfigNR>

The UERadioConfigNR is defined as the *UE-CapabilityRAT-ContainerList* in clause 6.3.3 of 3GPP TS 38.331 [15].

5.10zh /<X>/RLOSAllowedMCCLList

This interior node contains a list of RLOS allowed MCCs configured to the UE for selection of a PLMN offering access to RLOS as specified in 3GPP TS 23.122 [3].

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.10zi /<X>/RLOSAllowedMCCLList/<X>

This interior node acts as a placeholder for one or more RLOS Allowed MCCs configured to the UE for selection of a PLMN offering access to RLOS as specified in 3GPP TS 23.122 [3].

- Occurrence: OneOrMore
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.10zj /<X>/RLOSAllowedMCCLList/<X>/MCC

The MCC leaf indicates the MCC value of the RLOS allowed MCC.

- Occurrence: One
- Format: chr
- Access Types: Get, Replace
- Values: <MCC>

The MCC is in the format defined by 3GPP TS 23.003 [13], with each digit of the MCC encoded as an ASCII character.

5.10zk /<X>/SNPN_Configuration

The leaf contains configuration parameters regarding a UE operating in SNPN access mode.

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.10zl /<X>/SNPN_Configuration/<X>

The leaf acts as a placeholder for a list of:

- 1) SNPN identifier;

- 2) configuration parameters regarding 3GPP PS data off for a UE in the SNPN identified by the SNPN identifier; and
- 3) configured UE retry wait time value for a UE in the SNPN identified by the SNPN identifier.

NOTE: For each of the elements in the list, 1) must be present and either 2), 3), or both needs to appear.

- Occurrence: OneOrMore
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.10zm /<X>/SNPN_Configuration/<X>/SNPN_identifier

This leaf indicates the SNPN identifier for which the 3GPP_PS_data_off leaf or SM_RetryWaitTime leaf is applicable.

- Occurrence: One
- Format: chr
- Access Types: Get, Replace
- Values: <PLMN><NID>

The PLMN and NID are in the format defined by 3GPP TS 23.003 [13], with each digit of the MCC and MNC of the PLMN and each digit of the assignment mode and NID value of the NID encoded as an ASCII character.

5.10zn /<X>/SNPN_Configuration/<X>/3GPP_PS_data_off

The interior node contains configuration parameters regarding 3GPP PS data off for a UE in the SNPN identified by the SNPN_identifier leaf.

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.10zo

/<X>/SNPN_Configuration/<X>/3GPP_PS_data_off/Exempted_service_list

This leaf contains one or more services which are exempted of 3GPP PS data off when the UE is in the SNPN identified by the SNPN_identifier leaf.

- Occurrence: One
- Format: node
- Access Types: Get, Replace
- Values: N/A

5.10zp

`/<X>/SNPN_Configuration/<X>/3GPP_PS_data_off/Exempted_service_list/Device_management_over_PS`

This leaf indicates whether Device management over PS is a 3GPP PS data off exempt service when the UE is in the SNPN identified by the SNPN_identifier leaf.

- Occurrence: One
- Format: bool
- Access Types: Get, Replace
- Values: 0, 1
 - 0 - Indicates that the device management over PS is not a 3GPP PS data off exempt service when the UE is in the SNPN identified by the SNPN_identifier leaf.
 - 1 - Indicates that the device management over PS is a 3GPP PS data off exempt service when the UE is in the SNPN identified by the SNPN_identifier leaf.

5.10zq

`/<X>/SNPN_Configuration/<X>/3GPP_PS_data_off/Exempted_service_list/Bearer_independent_protocol`

This leaf indicates whether Bearer independent protocol is a 3GPP PS data off exempt service when the UE is in the SNPN identified by the SNPN_identifier leaf.

- Occurrence: ZeroOrOne
- Format: bool
- Access Types: Get, Replace
- Values: 0, 1
 - 0 - Indicates that the bearer independent protocol is not a 3GPP PS data off exempt service when the UE is the SNPN identified by the SNPN_identifier leaf (see 3GPP TS 31.111 [7]).
 - 1 - Indicates that the bearer independent protocol is a 3GPP PS data off exempt service when the UE is the SNPN identified by the SNPN_identifier leaf (see 3GPP TS 31.111 [7]).

5.10zr <X>/SNPN_Configuration/<X>/SM_RetryWaitTime

This leaf indicates a configured UE retry wait time value for a UE in the SNPN identified by the SNPN_identifier leaf in order to control the UE session management retry behaviour when prior session management request was rejected by the network with cause value #8, #27, #32, #33, #70 as specified in 3GPP TS 24.501 [11].

- Occurrence: ZeroOrOne
- Format: int
- Access Types: Get, Replace
- Values: 0-255

SM_RetryWaitTime shall be coded in the same format as the value part of GPRS Timer 3 IE as specified in table 10.5.163a/3GPP TS 24.008 [4] converted into a decimal value.

5.11 <X>/Ext

The Ext is an interior node for where the vendor specific information about the NAS configuration MO is being placed (vendor meaning application vendor, device vendor etc.). Usually the vendor extension is identified by vendor specific name under the ext node. The tree structure under the vendor identifier is not defined and can therefore include one or more un-standardized sub-trees.

- Occurrence: ZeroOrOne
- Format: node
- Access Types: Get
- Values: N/A

Annex A (informative): NAS configuration MO DDF

This DDF is the standardized minimal set. A vendor can define its own DDF for the complete device. This DDF can include more features than this minimal standardized version.

```

<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE MgmtTree PUBLIC "-//OMA//DTD-DM-DDF 1.2//EN"
"http://www.openmobilealliance.org/tech/DTD/dm_ddf-v1_2.dtd">

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  <VerDTD>1.2</VerDTD>
  <Man>--The device manufacturer--</Man>
  <Mod>--The device model--</Mod>

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      </DFFormat>
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      </Occurrence>
      <DFTitle>The NAS configuration Management Object.</DFTitle>
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        <DDFName>urn:oma:mo:ext-3gpp-nas-config:1.0</DDFName>
      </DFType>
    </DFProperties>

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          <Replace/>
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          <Replace/>
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```

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```

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```

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    </DFFormat>
    <Occurrence>
      <ZeroOrOne/>
    </Occurrence>
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  <DFTitle>List of EARFCN for initial cell search of MTC carrier or NB-IoT
carrier.</DFTitle>
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    <DDFName/>
  </DFType>
</DFProperties>

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search of MTC carrier or NB-IoT carrier.</DFTitle>
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of NB-IoT carrier.</DFTitle>
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        <Occurrence>
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        </Occurrence>
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    </DFProperties>

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            </Occurrence>
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                < DDFName/>
            </DFType>
        </DFProperties>

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            <DFProperties>
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                </DFFormat>
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                <DFType>
                    < DDFName></DDFName>
                </DFType>
            </DFProperties>

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                    <DFFormat>
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                    </DFFormat>
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                    </Occurrence>
                    <DFTitle>Descriptions for geographical coordinates</DFTitle>

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<Occurrence>
    <ZeroOrOne/>
</Occurrence>
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    <Dynamic/>
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    <DDFName/>
</DFType>
</DFProperties>
</DFProperties>

<Node>
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    <DFProperties>
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            <Get/>
            <Replace/>
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        <Occurrence>
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        <DFTitle> List of RLOS preferred PLMNs and associated priority.</DFTitle>
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    </DFProperties>
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  </DFProperties>

<Node>
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radio configurations.</DFTitle>
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in TS 36.331.</DFTitle>
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in TS 38.331.</DFTitle>
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</Node>

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mode.</DFTitle>
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        </DFType>
    </DFProperties>

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data off for a UE in the SNPN identified by the SNPN identifier, configured UE retry wait time value
for a UE in the SNPN identified by the SNPN identifier}.</DFTitle>
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        <DFFormat>
            <chr/>
        </DFFormat>
        <Occurrence>
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        </Occurrence>
        <DFTitle>SNPN identifier for which the 3GPP_PS_data_off leaf or
SM_RetryWaitTime leaf is applicable.</DFTitle>
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        </DFType>
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SNPN identified by the SNPN_identifier leaf.</DFTitle>
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</DFProperties>

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        </DFFormat>
        <Occurrence>
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        <Scope>
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UE in the SNPN identified by the SNPN_identifier leaf.</DFTitle>
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    </DFProperties>

    <Node>
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        <DFProperties>
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    <Occurrence>
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exempt service for a UE in the SNPN identified by the SNPN_identifier leaf.</DFTitle>
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        <Occurrence>
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Annex B (informative): Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
2010-10	CT1#67				Includes the following contribution agreed by CT1: C1-104202		0.1.0
2010-11	CT1#68				Includes the following contribution agreed by CT1: C1-105247	0.1.0	0.2.0
2010-12	CT#50	CP-100719			V1.0.0 created by MCC for presentation for information at CT-50	0.2.0	1.0.0
2010-12	CT#50	CP-100888			V1.0.1 TS-number added at CT#50	1.0.0	1.0.1
2011-01	CT1#69				Includes the following contributions agreed by CT1: C1-110073, C1-110308, C1-110484	1.0.1	1.1.0
2011-02	CT1#70				Includes the following contributions agreed by CT1: C1-110790; C1-111456	1.1.0	1.2.0
2011-03	CT-51	CP-110153			Version 2.0.0 created by MCC for presentation to CT-51 for approval	1.2.0	2.0.0
2011-03	CT-51				Version 10.0.0 created by MCC after approval at CT-51	2.0.0	10.0.0
2011-06	CT-52	CP-110462	0001	1	Reference to NAS configuration in USIM	10.0.0	10.1.0
2011-09	CT-53	CP-110695	0002	1	Definition of reserved code point	10.1.0	11.0.0
2012-06	CT-56	CP-120315	0004	2	Override Low Priority Configuration	11.0.0	11.1.0
2012-06	CT-56				Re-ordering of subclauses of clause 5	11.1.0	11.1.1
2012-09	CT-57	CP-120589	0006		Correction on overriding configurations	11.1.1	11.2.0
2013-12	CT-62	CP-130762	0007	3	Fast higher priority PLMN search upon entering VPLMN	11.2.0	12.0.0
2014-06	CT-64	CP-140331	0009		Addition of configuration parameter for EMM cause #15 extension	12.0.0	12.1.0
2014-09	CT-65	CP-140643	0012	1	"Override_NAS_SignallingLowPriority" and "Override_ExtendedAccessBarring" linkage	12.1.0	12.2.0
2015-03	CT-67	CP-150069	0014	2	Addition of UE retry configuration parameter to NAS MO	12.2.0	12.3.0
2015-06	CT-68	CP-150323	0017	1	Correcting DDF to be valid XML document	12.3.0	13.0.0
2015-06	CT-68	CP-150329	0018		Clarification to the applicability of the UE retry wait time value or behaviour	12.3.0	13.0.0
2015-09	CT-69	CP-150511	0020		NAS MO figure	13.0.0	13.1.0
2015-12	CT-70	CP-150710	0021	1	Setting of override EAB and override NSLP leaves	13.1.0	13.2.0
2016-06	CT-72	CP-160309	0022	6	UE configuration for exceptional data reporting	13.2.0	13.3.0

Change history							
Date	Meeting	TDoc	CR	Rev	Cat	Subject/Comment	New version
2016-12	CT#74	CP-160738	0023	2	B	Addition of default standardized DCN-ID	14.0.0
2017-03	CT#75	CP-170130	0024	4	B	3GPP PS data off configuration for non-SIP services	14.1.0
2017-03	CT#75	CP-170122	0026	3	F	Resolve DCN-ID length	14.1.0
2017-06	CT#76	CP-171092	0028		F	Correction on place of ExceptionDataReportingAllowed leaf	14.2.0
2017-06	CT#76	CP-171085	0029		F	Removal of editor's note [WI PS_DATA_OFF-CT CR#0024] on APN(s) list and associated packet filter(s)	14.2.0
2017-06	CT#76	CP-171085	0030	1	F	Removal of editor's note [WI PS_DATA_OFF-CT CR#0024] on the need of updating the DDF	14.2.0
2018-06	CT#80	CP-181056	0031	2	F	Remove default value of exempted BIP service	14.3.0
2018-06	CT#80	CP-181056	0035	1	F	Remove the default value of Device_management_over_PS	14.3.0
2018-06	CT#80	CP-181056	0036	2	F	Correction to Exempted_service_list sub-tree	14.3.0
2018-06	CT#80	CP-181076	0032	1	F	Enabling pre-provisioning of EARFCNs and associated geographical areas for initial cell search of MTC carrier or NB-IOT carrier	15.0.0
2018-06	CT#80	CP-181074	0033	3	B	Enabling 3GPP PS data off in roaming-NAS MO	15.0.0
2018-09	CT#81	CP-182156	0038		F	Corrections for invalid DDF	15.1.0
2019-03	CT#83	CP-190106	0040	1	B	SINE_5G: Inter-RAT retry restriction in 5GS	16.0.0
2019-06	CT#84	CP-191144	0041	1	B	Configuration of RLOS preferred PLMN list	16.1.0
2019-09	CT#85	CP-192070	0043	2	F	5GSM cause #27 and #70 for NAS MO SM_RetryWaitTime	16.2.0
2019-09	CT#85	CP-192069	0044	1	B	Provisioning of manufacturer-assigned UE radio capability ID to the UE	16.2.0
2020-03	CT#87e	CP-200125	0045		C	Finalizing provisioning of manufacturer-assigned UE radio capability IDs at the UE	16.3.0
2020-03	CT#87e	CP-200124	0046	2	B	NAS configuration for restriction on access to RLOS	16.3.0
2020-03	CT#87e	CP-200107	0048	1	C	MO exception data reporting for NB-IoT in 5G	16.3.0
2020-06	CT#88e	CP-201100	0050		F	Timer_T3245_Behaviour leaf applicable in 5GS	16.4.0
2020-06	CT#88e	CP-201135	0051	2	B	Configuration parameters for a UE operating in SNPN access mode	16.4.0

History

Document history		
V16.4.0	July 2020	Publication