

ETSI TS 124 368 V15.1.0 (2018-09)



**Universal Mobile Telecommunications System (UMTS);  
LTE;  
Non-Access Stratum (NAS)  
configuration Management Object (MO)  
(3GPP TS 24.368 version 15.1.0 Release 15)**



---

Reference

RTS/TSGC-0124368vf10

---

Keywords

LTE,UMTS

**ETSI**

650 Route des Lucioles  
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C  
Association à but non lucratif enregistrée à la  
Sous-Préfecture de Grasse (06) N° 7803/88

---

**Important notice**

The present document can be downloaded from:

<http://www.etsi.org/standards-search>

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the only prevailing document is the print of the Portable Document Format (PDF) version kept on a specific network drive within ETSI Secretariat.

Users of the present document should be aware that the document may be subject to revision or change of status.

Information on the current status of this and other ETSI documents is available at

<https://portal.etsi.org/TB/ETSIDeliverableStatus.aspx>

If you find errors in the present document, please send your comment to one of the following services:

<https://portal.etsi.org/People/CommiteeSupportStaff.aspx>

---

**Copyright Notification**

No part may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm except as authorized by written permission of ETSI.

The content of the PDF version shall not be modified without the written authorization of ETSI.

The copyright and the foregoing restriction extend to reproduction in all media.

© ETSI 2018.

All rights reserved.

**DECT™**, **PLUGTESTS™**, **UMTS™** and the ETSI logo are trademarks of ETSI registered for the benefit of its Members.

**3GPP™** and **LTE™** are trademarks of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners.

**oneM2M** logo is protected for the benefit of its Members.

**GSM®** and the GSM logo are trademarks registered and owned by the GSM Association.

---

# Intellectual Property Rights

## Essential patents

IPRs essential or potentially essential to normative deliverables may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: *"Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards"*, which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (<https://ipr.etsi.org/>).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

## Trademarks

The present document may include trademarks and/or tradenames which are asserted and/or registered by their owners. ETSI claims no ownership of these except for any which are indicated as being the property of ETSI, and conveys no right to use or reproduce any trademark and/or tradename. Mention of those trademarks in the present document does not constitute an endorsement by ETSI of products, services or organizations associated with those trademarks.

---

# Foreword

This Technical Specification (TS) has been produced by ETSI 3rd Generation Partnership Project (3GPP).

The present document may refer to technical specifications or reports using their 3GPP identities, UMTS identities or GSM identities. These should be interpreted as being references to the corresponding ETSI deliverables.

The cross reference between GSM, UMTS, 3GPP and ETSI identities can be found under <http://webapp.etsi.org/key/queryform.asp>.

---

# Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](#) (Verbal forms for the expression of provisions).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

# Contents

Intellectual Property Rights .....	2
Foreword.....	2
Modal verbs terminology.....	2
Foreword.....	4
1 Scope .....	5
2 References .....	5
3 Definitions, symbols and abbreviations .....	5
3.1 Definitions .....	5
3.2 Abbreviations .....	6
4 NAS configuration MO.....	6
5 NAS configuration MO parameters .....	8
5.1 General .....	8
5.2 Node: <X> .....	8
5.3 <X>/NAS_SignallingPriority .....	8
5.4 <X>/AttachWithIMSI.....	8
5.5 <X>/MinimumPeriodicSearchTimer .....	8
5.6 <X>/NMO_I_Behaviour.....	9
5.7 <X>/Timer_T3245_Behaviour .....	9
5.8 <X>/ExtendedAccessBarring .....	9
5.9 <X>/Override_NAS_SignallingLowPriority .....	10
5.10 <X>/Override_ExtendedAccessBarring .....	10
5.10a <X>/FastFirstHigherPriorityPLMNSearch.....	10
5.10b <X>/EUTRADisablingAllowedForEMMCause15.....	11
5.10c <X>/SM_RetryWaitTime .....	11
5.10d <X>/SM_RetryAtRATChange .....	11
5.10e <X>/Default_DCN_ID .....	12
5.10f /<X>/3GPP_PS_data_off.....	12
5.10g /<X>/3GPP_PS_data_off/Exempted_service_list.....	12
5.10h Void.....	12
5.10i /<X>/3GPP_PS_data_off/Exempted_service_list/Device_management_over_PS.....	12
5.10j /<X>/3GPP_PS_data_off/Exempted_service_list/Bearer_independent_protocol .....	13
5.10k <X>/ExceptionDataReportingAllowed.....	13
5.10l /<X>/3GPP_PS_data_off/Exempted_service_list_roaming .....	13
5.10m /<X>/3GPP_PS_data_off/Exempted_service_list_roaming/Device_management_over_PS .....	13
5.10n /<X>/3GPP_PS_data_off/Exempted_service_list_roaming/Bearer_independent_protocol .....	14
5.10o /<X>/EARFCNList .....	14
5.10p /<X>/EARFCNList/<X> .....	14
5.10q /<X>/EARFCNList/<X>/EARFCN.....	14
5.10r /<X>/EARFCNList/<X>/GeographicalArea .....	15
5.10s /<X>/EARFCNList/<X>/GeographicalArea/Polygon.....	15
5.10t /<X>/EARFCNList/<X>/GeographicalArea/Polygon/<X>.....	15
5.10u /<X>/EARFCNList/<X>/GeographicalArea/Polygon/<X>/ Coordinates .....	15
5.10v /<X>/EARFCNList/<X>/GeographicalArea/Polygon/<X>/ Coordinates/<X>.....	16
5.10w /<X>/EARFCNList/<X>/GeographicalArea/Polygon/<X>/ Coordinates/<X>/Latitude .....	16
5.10x /<X>/EARFCNList/<X>/GeographicalArea/Polygon/<X>/ Coordinates/<X>/Longitude .....	16
5.11 <X>/Ext .....	16
<b>Annex A (informative): NAS configuration MO DDF .....</b>	<b>17</b>
<b>Annex B (informative): Change history .....</b>	<b>27</b>
History .....	29

---

# Foreword

This Technical Specification has been produced by the 3<sup>rd</sup> Generation Partnership Project (3GPP).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

- x the first digit:
  - 1 presented to TSG for information;
  - 2 presented to TSG for approval;
  - 3 or greater indicates TSG approved document under change control.
- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

---

# 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-ERELED-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-ERELED-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".
- 

# 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 24.301 [5] apply:

**In NB-S1 mode**

## 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
OMA	Open Mobile Alliance

---

## 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-ERELED-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:

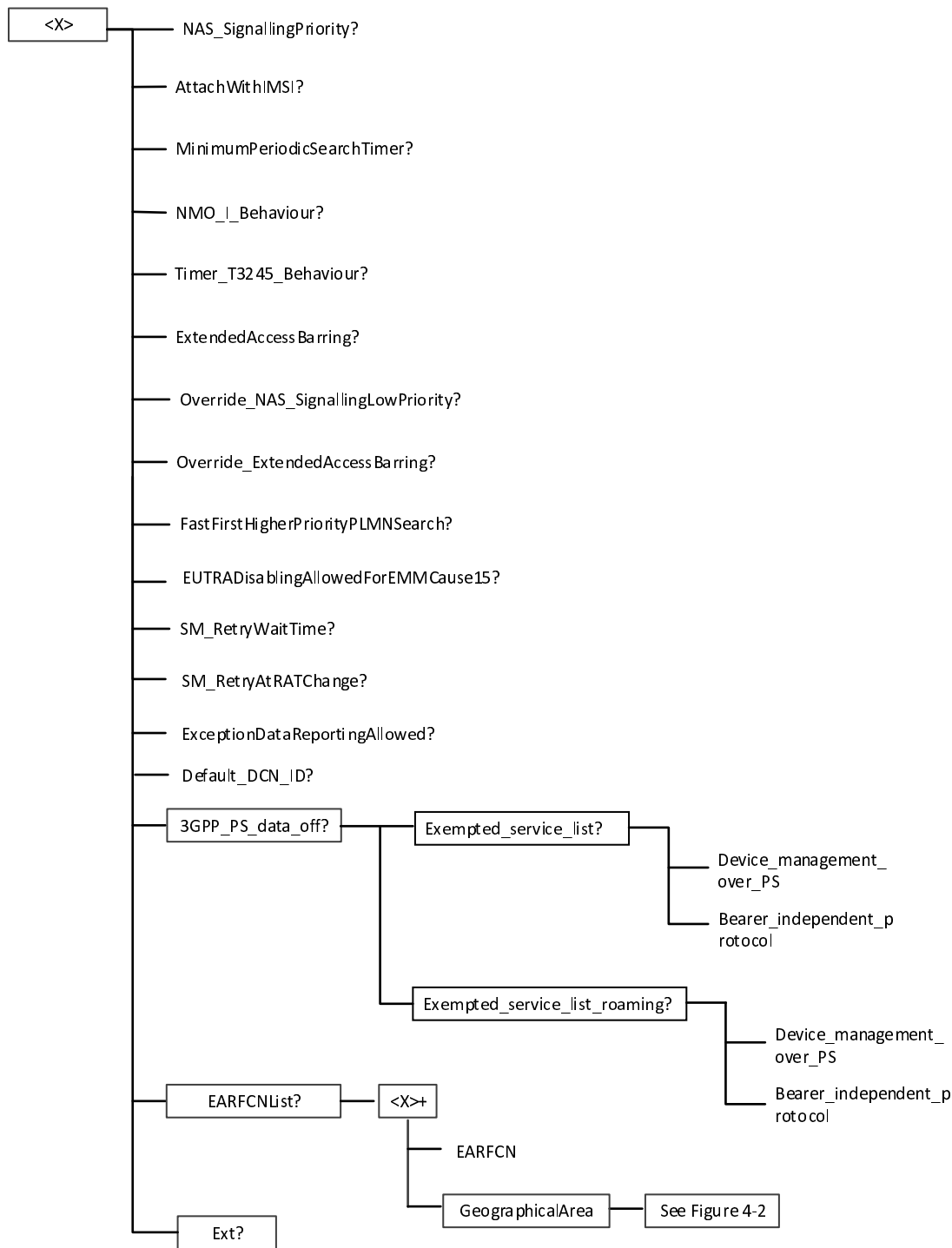


Figure 4-1: The NAS configuration Management Object (1 of 2)

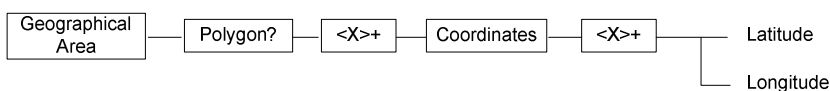


Figure 4-2: The NAS configuration Management Object (2 of 2)



## 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] and 3GPP TS 24.301 [5] 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].

- 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 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 UE is allowed to retry the corresponding ESM procedure in S1 mode if an SM procedure was rejected in A/Gb or Iu mode, and to retry the corresponding SM procedure in A/Gb or Iu mode if an ESM procedure was rejected in S1 mode, see 3GPP TS 24.008 [4] and 3GPP TS 24.301 [5]

- 1 Indicates that the UE is not allowed to retry an SM procedure or the corresponding ESM procedure in any of the modes: A/Gb, Iu and S1 mode, see 3GPP TS 24.008 [4] and 3GPP TS 24.301 [5]

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].

- 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].

## 5.11 <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">

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

  <Node>
    <NodeName/>
    <DFProperties>
      <AccessType>
        <Get/>
      </AccessType>
      <Description>NAS configuration</Description>
      <DFFormat>
        <node/>
      </DFFormat>
      <Occurrence>
        <ZeroOrOne/>
      </Occurrence>
      <DFTitle>The NAS configuration Management Object.</DFTitle>
      <DFType>
        <DDFName>urn:oma:mo:ext-3gpp-nas-config:1.0</DDFName>
      </DFType>
    </DFProperties>

    <Node>
      <NodeName>NAS_SignallingPriority</NodeName>
      <DFProperties>
        <AccessType>
          <Get/>
          <Replace/>
        </AccessType>
        <DFFormat>
          <int/>
        </DFFormat>
        <Occurrence>
          <ZeroOrOne/>
        </Occurrence>
        <DFTitle>NAS Signalling Priority.</DFTitle>
        <DFType>
          <MIME>text/plain</MIME>
        </DFType>
      </DFProperties>
    </Node>

    <Node>
      <NodeName>AttachWithIMSI</NodeName>
      <DFProperties>
        <AccessType>
          <Get/>
          <Replace/>
        </AccessType>
        <DFFormat>
          <bool/>
        </DFFormat>
        <Occurrence>
          <ZeroOrOne/>
        </Occurrence>
        <DFTitle>Attach with IMSI.</DFTitle>
        <DFType>
          <MIME>text/plain</MIME>
        </DFType>
      </DFProperties>
    </Node>

  </Node>

```

```

<NodeName>MinimumPeriodicSearchTimer</NodeName>
<DFProperties>
  <AccessType>
    <Get/>
    <Replace/>
  </AccessType>
  <DFFormat>
    <int/>
  </DFFormat>
  <Occurrence>
    <ZeroOrOne/>
  </Occurrence>
  <DFTitle>Minimum periodic search timer.</DFTitle>
  <DFType>
    <MIME>text/plain</MIME>
  </DFType>
</DFProperties>
</Node>

<Node>
  <NodeName>NMO_I_Behaviour</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <bool/>
    </DFFormat>
    <Occurrence>
      <ZeroOrOne/>
    </Occurrence>
    <DFTitle>NMO I behaviour.</DFTitle>
    <DFType>
      <MIME>text/plain</MIME>
    </DFType>
  </DFProperties>
</Node>

<Node>
  <NodeName>Timer_T3245_Behaviour</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <bool/>
    </DFFormat>
    <Occurrence>
      <ZeroOrOne/>
    </Occurrence>
    <DFTitle>Timer T3245 Behaviour.</DFTitle>
    <DFType>
      <MIME>text/plain</MIME>
    </DFType>
  </DFProperties>
</Node>

<Node>
  <NodeName>ExtendedAccessBarring</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <bool/>
    </DFFormat>
    <Occurrence>
      <ZeroOrOne/>
    </Occurrence>
    <DFTitle>Extended Access Barring.</DFTitle>
    <DFType>
      <MIME>text/plain</MIME>
    </DFType>
  </DFProperties>
</Node>

```

```

<Node>
  <NodeName>Override_NAS_SignallingLowPriority</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <bool/>
    </DFFormat>
    <Occurrence>
      <ZeroOrOne/>
    </Occurrence>
    <DFTitle>Override NAS Signalling Low Priority.</DFTitle>
    <DFType>
      <MIME>text/plain</MIME>
    </DFType>
  </DFProperties>
</Node>

<Node>
  <NodeName>Override_ExtendedAccessBarring</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <bool/>
    </DFFormat>
    <Occurrence>
      <ZeroOrOne/>
    </Occurrence>
    <DFTitle>Override ExtendedAccessBarring.</DFTitle>
    <DFType>
      <MIME>text/plain</MIME>
    </DFType>
  </DFProperties>
</Node>

<Node>
  <NodeName>FastFirstHigherPriorityPLMNSearch</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <bool/>
    </DFFormat>
    <Occurrence>
      <ZeroOrOne/>
    </Occurrence>
    <DFTitle> FastFirstHigherPriorityPLMNSearch.</DFTitle>
    <DFType>
      <MIME>text/plain</MIME>
    </DFType>
  </DFProperties>
</Node>

<Node>
  <NodeName>EUTRADisablingAllowedForEMMCause15</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <bool/>
    </DFFormat>
    <Occurrence>
      <ZeroOrOne/>
    </Occurrence>
    <DFTitle> EUTRADisablingAllowedForEMMCause15.</DFTitle>
    <DFType>
      <MIME>text/plain</MIME>
    </DFType>
  </DFProperties>
</Node>

```

```

        </DFType>
      </DFProperties>
    </Node>

    <Node>
      <NodeName>SM_RetryWaitTime</NodeName>
      <DFProperties>
        <AccessType>
          <Get/>
          <Replace/>
        </AccessType>
        <DFFormat>
          <int/>
        </DFFormat>
        <Occurrence>
          <ZeroOrOne/>
        </Occurrence>
        <DFTitle> SM_RetryWaitTime</DFTitle>
        <DFType>
          <MIME>text/plain</MIME>
        </DFType>
      </DFProperties>
    </Node>

    <Node>
      <NodeName>SM_RetryAtRATChange</NodeName>
      <DFProperties>
        <AccessType>
          <Get/>
          <Replace/>
        </AccessType>
        <DFFormat>
          <bool/>
        </DFFormat>
        <Occurrence>
          <ZeroOrOne/>
        </Occurrence>
        <DFTitle> SM_RetryAtRATChange</DFTitle>
        <DFType>
          <MIME>text/plain</MIME>
        </DFType>
      </DFProperties>
    </Node>

    <Node>
      <NodeName>ExceptionDataReportingAllowed</NodeName>
      <DFProperties>
        <AccessType>
          <Get/>
          <Replace/>
        </AccessType>
        <DFFormat>
          <bool/>
        </DFFormat>
        <Occurrence>
          <ZeroOrOne/>
        </Occurrence>
        <DFTitle> ExceptionDataReportingAllowed.</DFTitle>
        <DFType>
          <MIME>text/plain</MIME>
        </DFType>
      </DFProperties>
    </Node>

    <Node>
      <NodeName> Default_DCN_ID</NodeName>
      <DFProperties>
        <AccessType>
          <Get/>
          <Replace/>
        </AccessType>
        <DFFormat>
          <int/>
        </DFFormat>
        <Occurrence>
          <ZeroOrOne/>
        </Occurrence>
        <DFTitle>Default_DCN_ID </DFTitle>

```

```

    <DFType>
      <MIME>text/plain</MIME>
    </DFType>
  </DFProperties>
</Node>

<Node>
  <NodeName>3GPP_PS_data_off</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <node/>
    </DFFormat>
    <Occurrence>
      <ZeroOrOne/>
    </Occurrence>
    <Scope>
      <Dynamic/>
    </Scope>
    <DFTitle>Configuration parameters for 3GPP PS data off.</DFTitle>
    <DFType>
      <DDFName/>
    </DFType>
  </DFProperties>

  <Node>
    <NodeName>Exempted_service_list</NodeName>
    <DFProperties>
      <AccessType>
        <Get/>
        <Replace/>
      </AccessType>
      <DFFormat>
        <node/>
      </DFFormat>
      <Occurrence>
        <One/>
      </Occurrence>
      <Scope>
        <Dynamic/>
      </Scope>
      <DFTitle>List of services which are exempted of 3GPP PS data off when the UE is
in its HPLMN or EHPLMN.</DFTitle>
      <DFType>
        <DDFName/>
      </DFType>
    </DFProperties>

    <Node>
      <NodeName>Device_management_over_PS</NodeName>
      <DFProperties>
        <AccessType>
          <Get/>
          <Replace/>
        </AccessType>
        <DFFormat>
          <bool/>
        </DFFormat>
        <Occurrence>
          <One/>
        </Occurrence>
        <Scope>
          <Dynamic/>
        </Scope>
        <DFTitle>Device management over PS which is a 3GPP PS data off exempt
service when the UE is in its HPLMN or EHPLMN.</DFTitle>
        <DFType>
          <MIME>text/plain</MIME>
        </DFType>
      </DFProperties>
    </Node>

    <Node>
      <NodeName>Bearer_independent_protocol</NodeName>
      <DFProperties>

```

```

        <AccessType>
          <Get/>
          <Replace/>
        </AccessType>
        <DFFormat>
          <bool/>
        </DFFormat>
        <Occurrence>
          <One/>
        </Occurrence>
        <Scope>
          <Dynamic/>
        </Scope>
        <DFTitle>Bearer independent protocol which is a 3GPP PS data off exempt
service when the UE is in its HPLMN or EHPLMN.</DFTitle>
        <DFType>
          <MIME>text/plain</MIME>
        </DFType>
      </DFProperties>
    </Node>

  </Node>

  <Node>
    <nodeName>Exempted_service_list_roaming</nodeName>
    <DFProperties>
      <AccessType>
        <Get/>
        <Replace/>
      </AccessType>
      <DFFormat>
        <node/>
      </DFFormat>
      <Occurrence>
        <One/>
      </Occurrence>
      <Scope>
        <Dynamic/>
      </Scope>
      <DFTitle>List of services which are exempted of 3GPP PS data off when the UE is
in the VPLMN.</DFTitle>
      <DFType>
        <DDFName/>
      </DFType>
    </DFProperties>

    <Node>
      <nodeName>Device_management_over_PS</nodeName>
      <DFProperties>
        <AccessType>
          <Get/>
          <Replace/>
        </AccessType>
        <DFFormat>
          <bool/>
        </DFFormat>
        <Occurrence>
          <One/>
        </Occurrence>
        <Scope>
          <Dynamic/>
        </Scope>
        <DFTitle>Device management over PS which is a 3GPP PS data off exempt
service when the UE is in the VPLMN.</DFTitle>
        <DFType>
          <MIME>text/plain</MIME>
        </DFType>
      </DFProperties>
    </Node>

    <Node>
      <nodeName>Bearer_independent_protocol</nodeName>
      <DFProperties>
        <AccessType>
          <Get/>
          <Replace/>
        </AccessType>

```

```

        <DFFormat>
          <bool/>
        </DFFormat>
      </Occurrence>
    </Scope>
  </Node>
  <NodeName>Bearer independent protocol which is a 3GPP PS data off exempt
service when the UE is in the VPLMN.</NodeName>
  <DFType>
    <MIME>text/plain</MIME>
  </DFType>
</DFProperties>
</Node>

</Node>
<Node>
  <NodeName>EARFCNList</NodeName>
  <DFProperties>
    <AccessType>
      <Get/>
      <Replace/>
    </AccessType>
    <DFFormat>
      <node/>
    </DFFormat>
    <Occurrence>
      <ZeroOrOne/>
    </Occurrence>
    <Scope>
      <Dynamic/>
    </Scope>
    <DFTitle>List of EARFCN for initial cell search of MTC carrier or NB-IoT
carrier.</DFTitle>
    <DFType>
      <DDFName/>
    </DFType>
  </DFProperties>

  <Node>
    <NodeName></NodeName>
    <DFProperties>
      <AccessType>
        <Get/>
        <Replace/>
      </AccessType>
      <DFFormat>
        <node/>
      </DFFormat>
      <Occurrence>
        <OneOrMore/>
      </Occurrence>
      <Scope>
        <Dynamic/>
      </Scope>
      <DFTitle> List of EARFCNs and associated geographical area for initial cell
search of MTC carrier or NB-IoT carrier.</DFTitle>
      <DFType>
        <DDFName/>
      </DFType>
    </DFProperties>

  <Node>
    <NodeName>EARFCN</NodeName>
    <DFProperties>
      <AccessType>
        <Get/>
        <Replace/>
      </AccessType>
      <DFFormat>
        <chr/>
      </DFFormat>
      <Occurrence>
        <One/>
      </Occurrence>

```



```

    <DFTitle>EARFCN configured to the UE for initial cell search of MTC carrier
of NB-IoT carrier.</DFTitle>
    <DFType>
      <MIME>text/plain</MIME>
    </DFType>
  </DFProperties>
</Node>

<Node>
  <NodeName>GeographicalArea</NodeName>
  <DFProperties>
    <AccessType>
      <Get />
      <Replace />
    </AccessType>
    <DFFormat>
      <node />
    </DFFormat>
    <Occurrence>
      <One />
    </Occurrence>
    <DFTitle>Geographical Area description.</DFTitle>
    <DFType>
      <MIME>text/plain</MIME>
    </DFType>
  </DFProperties>

  <Node>
    <NodeName>Polygon</NodeName>
    <DFProperties>
      <AccessType>
        <Get />
        <Replace />
      </AccessType>
      <DFFormat>
        <node />
      </DFFormat>
      <Occurrence>
        <One />
      </Occurrence>
      <DFTitle>Polygon Area description.</DFTitle>
      <DFType>
        <DDFName />
      </DFType>
    </DFProperties>

    <Node>
      <NodeName></NodeName>
      <DFProperties>
        <AccessType>
          <Get />
          <Replace />
        </AccessType>
        <DFFormat>
          <node />
        </DFFormat>
        <Occurrence>
          <OneOrMore />
        </Occurrence>
        <DFType>
          <DDFName></DDFName>
        </DFType>
      </DFProperties>

    <Node>
      <NodeName>Coordinates</NodeName>
      <DFProperties>
        <AccessType>
          <Get />
          <Replace />
        </AccessType>
        <DFFormat>
          <node />
        </DFFormat>
        <Occurrence>
          <One />
        </Occurrence>
        <DFTitle>Descriptions for geographical coordinates</DFTitle>

```



```
</DFFormat>
<Occurrence>
  <ZeroOrOne/>
</Occurrence>
<DFTitle>A collection of all extension objects.</DFTitle>
<DFType>
  <DDFName/>
</DFType>
</DFProperties>
</Node>
</Node>
</MgmtTree>
```

## 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

---

# History

<b>Document history</b>		
V15.0.0	June 2018	Publication
V15.1.0	September 2018	Publication