**3GPP TSG-RAN WG2 Meeting #116bis-e *R2-22xxxx***

**Electronic, 17 – 25 Jan, 2022**

|  |
| --- |
| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **36.331** | **CR** | **CRNum** | **rev** | **-** | **Current version:** | **16.7.0** |  |
|  |
| *For* [***HELP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* |
|  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network | **X** | Core Network |  |

|  |
| --- |
|  |
| ***Title:***  | Introduction of MINT |
|  |  |
| ***Source to WG:*** | Ericsson |
| ***Source to TSG:*** | R2 |
|  |  |
| ***Work item code:*** | TEI17 [MINT] |  | ***Date:*** | 2022-01-20 |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***Release:*** | Rel-17 |
|  | *Use one of the following categories:****F*** *(correction)****A*** *(mirror corresponding to a change in an earlier release)****B*** *(addition of feature),* ***C*** *(functional modification of feature)****D*** *(editorial modification)*Detailed explanations of the above categories canbe found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | *Use one of the following releases:Rel-8 (Release 8)Rel-9 (Release 9)Rel-10 (Release 10)Rel-11 (Release 11)…Rel-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
|  |  |
| ***Reason for change:*** | CT1 is specifying a feature referred to as MINT. This feature is about PLMNs which experiencing outage during disasters. This feature allows UEs of PLMN which is experiencing so called "disaster conditions" to roam in other networks. Such type of roaming is called disaster roaming.Two aspects of this feature impacts RAN2 specifications and have been captured in this draft CR. Namely:1. **Provision of disaster roaming information**: A network should be able to indicate which PLMNs' UEs are allowed to do disaster roaming.
2. **UAC for disaster roaming UEs**: A network should be able to bar UEs doing disaster roaming more aggresively than non-disaster roaming UEs. A UE that is doing disaster roaming will be applying Access Identity 3.
 |
|  |  |
| ***Summary of change:*** | 1. **Provision of disaster roaming information**: This is implemented in RRC by providing indications in [a new SIB]. The indications can either be a list of PLMNs, or a one-bit indication for which the semantics are still being discussed in CT1. Futher, in RAN sharing situations it should be possible that the network provides common disaster roaming information, and per-PLMN specific disaster roaming information.
2. **UAC for disaster roaming UEs**: This has been implemented by providing barring factors specific for Access Identity 3.
 |
|  |  |
| ***Consequences if not approved:*** | MINT is not supported in 36.331. |
|  |  |
| ***Clauses affected:*** | 5.2.2.X (new), 5.3.16.5, 6.2.2, 6.3.1 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** | **X** |  |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** |  | **N** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **N** |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

Beginning of changes

##### 5.2.2.X Actions upon reception of *SystemInformationBlockTypeX*

Upon receiving *SystemInformationBlockTypeX*, the UE shall:

1> forward the applicable disaster PLMNs for each PLMN to upper layers.

Editor's note: The one-bit-approach described in the CT1 LS in R2-2109818 may require some modification of the above. The impact is pending further CT1 input.

Next change

#### 5.3.16.5 Access barring check

The UE shall:

1> if one or more Access Identities equal to 1, 2, 11, 12, 13, 14, or 15 are indicated according to TS 24.501 [95], and

1> if for at least one of these Access Identities the corresponding bit in the *uac-BarringForAccessIdentity* contained in "UAC barring parameter" is set to *zero*:

2> consider the access attempt as allowed;

1> else:

2> if the establishment of the RRC connection is the result of relase with redirect with *mpsPriorityIndication* (either in NR or E-UTRAN); and

2> if the bit corresponding to Access Identity 1 in the *uac-BarringForAccessIdentity* contained in the "UAC barring parameter" is set to *zero*:

3> consider the access attempt as allowed;

2> else if Access Identity 3 is indicated:

3> draw a random number '*rand*' uniformly distributed in the range: 0 ≤ rand < 1;

3> if '*rand*' is lower than the value indicated by *uac-BarringFactorForAI3* included in "UAC barring parameter":

4> consider the access attempt as allowed;

3> else:

4> consider the access attempt as barred;

2> else:

3> draw a random number '*rand*' uniformly distributed in the range: 0 ≤ *rand* < 1;

3> if '*rand*' is lower than the value indicated by *uac-BarringFactor* included in "UAC barring parameter":

4> consider the access attempt as allowed;

3> else:

4> consider the access attempt as barred;

1> if the access attempt is considered as barred:

2> draw a random number '*rand*' that is uniformly distributed in the range 0 ≤ *rand* < 1;

2> start timer T309 for the Access Category with the timer value calculated as follows, using the *uac-BarringTime* included in"UAC barring parameter":

"Tbarring" = (0.7+ 0.6 \* *rand*) \* *uac-BarringTime*;

Next change

### 6.2.2 Message definitions

<Omitted unchanged parts>

#### – *SystemInformation*

The *SystemInformation* message is used to convey one or more System Information Blocks or Positioning System Information Blocks. All the SIBs or posSIBs included are transmitted with the same periodicity. *SystemInformation-BR* and *SystemInformation-MBMS* use the same structure as *SystemInformation.*

Signalling radio bearer: N/A

RLC-SAP: TM

Logical channels: BCCH and BR-BCCH

Direction: E‑UTRAN to UE

*SystemInformation message*

-- ASN1START

SystemInformation-BR-r13 ::= SystemInformation

SystemInformation-MBMS-r14 ::= SystemInformation

SystemInformation ::= SEQUENCE {

 criticalExtensions CHOICE {

 systemInformation-r8 SystemInformation-r8-IEs,

 criticalExtensionsFuture-r15 CHOICE {

 posSystemInformation-r15 PosSystemInformation-r15-IEs,

 criticalExtensionsFuture SEQUENCE {}

 }

 }

}

SystemInformation-r8-IEs ::= SEQUENCE {

 sib-TypeAndInfo SEQUENCE (SIZE (1..maxSIB)) OF CHOICE {

 sib2 SystemInformationBlockType2,

 sib3 SystemInformationBlockType3,

 sib4 SystemInformationBlockType4,

 sib5 SystemInformationBlockType5,

 sib6 SystemInformationBlockType6,

 sib7 SystemInformationBlockType7,

 sib8 SystemInformationBlockType8,

 sib9 SystemInformationBlockType9,

 sib10 SystemInformationBlockType10,

 sib11 SystemInformationBlockType11,

 ...,

 sib12-v920 SystemInformationBlockType12-r9,

 sib13-v920 SystemInformationBlockType13-r9,

 sib14-v1130 SystemInformationBlockType14-r11,

 sib15-v1130 SystemInformationBlockType15-r11,

 sib16-v1130 SystemInformationBlockType16-r11,

 sib17-v1250 SystemInformationBlockType17-r12,

 sib18-v1250 SystemInformationBlockType18-r12,

 sib19-v1250 SystemInformationBlockType19-r12,

 sib20-v1310 SystemInformationBlockType20-r13,

 sib21-v1430 SystemInformationBlockType21-r14,

 sib24-v1530 SystemInformationBlockType24-r15,

 sib25-v1530 SystemInformationBlockType25-r15,

 sib26-v1530 SystemInformationBlockType26-r15,

 sib26a-v1610 SystemInformationBlockType26a-r16,

 sib27-v1610 SystemInformationBlockType27-r16,

 sib28-v1610 SystemInformationBlockType28-r16,

 sib29-v1610 SystemInformationBlockType29-r16,

 sibX-v17xy SystemInformationBlockTypeX-r17

 },

 nonCriticalExtension SystemInformation-v8a0-IEs OPTIONAL

}

SystemInformation-v8a0-IEs ::= SEQUENCE {

 lateNonCriticalExtension OCTET STRING OPTIONAL,

 nonCriticalExtension SEQUENCE {} OPTIONAL

}

PosSystemInformation-r15-IEs ::= SEQUENCE {

 posSIB-TypeAndInfo-r15 SEQUENCE (SIZE (1..maxSIB)) OF CHOICE {

 posSib1-1-r15 SystemInformationBlockPos-r15,

 posSib1-2-r15 SystemInformationBlockPos-r15,

 posSib1-3-r15 SystemInformationBlockPos-r15,

 posSib1-4-r15 SystemInformationBlockPos-r15,

 posSib1-5-r15 SystemInformationBlockPos-r15,

 posSib1-6-r15 SystemInformationBlockPos-r15,

 posSib1-7-r15 SystemInformationBlockPos-r15,

 posSib2-1-r15 SystemInformationBlockPos-r15,

 posSib2-2-r15 SystemInformationBlockPos-r15,

 posSib2-3-r15 SystemInformationBlockPos-r15,

 posSib2-4-r15 SystemInformationBlockPos-r15,

 posSib2-5-r15 SystemInformationBlockPos-r15,

 posSib2-6-r15 SystemInformationBlockPos-r15,

 posSib2-7-r15 SystemInformationBlockPos-r15,

 posSib2-8-r15 SystemInformationBlockPos-r15,

 posSib2-9-r15 SystemInformationBlockPos-r15,

 posSib2-10-r15 SystemInformationBlockPos-r15,

 posSib2-11-r15 SystemInformationBlockPos-r15,

 posSib2-12-r15 SystemInformationBlockPos-r15,

 posSib2-13-r15 SystemInformationBlockPos-r15,

 posSib2-14-r15 SystemInformationBlockPos-r15,

 posSib2-15-r15 SystemInformationBlockPos-r15,

 posSib2-16-r15 SystemInformationBlockPos-r15,

 posSib2-17-r15 SystemInformationBlockPos-r15,

 posSib2-18-r15 SystemInformationBlockPos-r15,

 posSib2-19-r15 SystemInformationBlockPos-r15,

 posSib3-1-r15 SystemInformationBlockPos-r15,

 ...,

 [[

 posSib1-8-v1610 SystemInformationBlockPos-r15,

 posSib2-20-v1610 SystemInformationBlockPos-r15,

 posSib2-21-v1610 SystemInformationBlockPos-r15,

 posSib2-22-v1610 SystemInformationBlockPos-r15,

 posSib2-23-v1610 SystemInformationBlockPos-r15,

 posSib2-24-v1610 SystemInformationBlockPos-r15,

 posSib2-25-v1610 SystemInformationBlockPos-r15,

 posSib4-1-v1610 SystemInformationBlockPos-r15,

 posSib5-1-v1610 SystemInformationBlockPos-r15

 ]]

 },

 lateNonCriticalExtension OCTET STRING OPTIONAL,

 nonCriticalExtension SEQUENCE {} OPTIONAL

}

-- ASN1STOP

<Omitted unchanged parts>

#### – *SystemInformationBlockType1*

*SystemInformationBlockType1* contains information relevant when evaluating if a UE is allowed to access a cell and defines the scheduling of other system information. *SystemInformationBlockType1-BR* uses the same structure as *SystemInformationBlockType1*.

Signalling radio bearer: N/A

RLC-SAP: TM

Logical channels: BCCH and BR-BCCH

Direction: E‑UTRAN to UE

*SystemInformationBlockType1 message*

-- ASN1START

SystemInformationBlockType1-BR-r13 ::= SystemInformationBlockType1

SystemInformationBlockType1 ::= SEQUENCE {

 cellAccessRelatedInfo SEQUENCE {

 plmn-IdentityList PLMN-IdentityList,

 trackingAreaCode TrackingAreaCode,

 cellIdentity CellIdentity,

 cellBarred ENUMERATED {barred, notBarred},

 intraFreqReselection ENUMERATED {allowed, notAllowed},

 csg-Indication BOOLEAN,

 csg-Identity CSG-Identity OPTIONAL -- Need OR

 },

 cellSelectionInfo SEQUENCE {

 q-RxLevMin Q-RxLevMin,

 q-RxLevMinOffset INTEGER (1..8) OPTIONAL -- Need OP

 },

 p-Max P-Max OPTIONAL, -- Need OP

 freqBandIndicator FreqBandIndicator,

 schedulingInfoList SchedulingInfoList,

 tdd-Config TDD-Config OPTIONAL, -- Cond TDD

 si-WindowLength ENUMERATED {

 ms1, ms2, ms5, ms10, ms15, ms20,

 ms40},

 systemInfoValueTag INTEGER (0..31),

 nonCriticalExtension SystemInformationBlockType1-v890-IEs OPTIONAL

}

SystemInformationBlockType1-v890-IEs::= SEQUENCE {

 lateNonCriticalExtension OCTET STRING (CONTAINING SystemInformationBlockType1-v8h0-IEs) OPTIONAL,

 nonCriticalExtension SystemInformationBlockType1-v920-IEs OPTIONAL

}

-- Late non critical extensions

SystemInformationBlockType1-v8h0-IEs ::= SEQUENCE {

 multiBandInfoList MultiBandInfoList OPTIONAL, -- Need OR

 nonCriticalExtension SystemInformationBlockType1-v9e0-IEs OPTIONAL

}

SystemInformationBlockType1-v9e0-IEs ::= SEQUENCE {

 freqBandIndicator-v9e0 FreqBandIndicator-v9e0 OPTIONAL, -- Cond FBI-max

 multiBandInfoList-v9e0 MultiBandInfoList-v9e0 OPTIONAL, -- Cond mFBI-max

 nonCriticalExtension SystemInformationBlockType1-v10j0-IEs OPTIONAL

}

SystemInformationBlockType1-v10j0-IEs ::= SEQUENCE {

 freqBandInfo-r10 NS-PmaxList-r10 OPTIONAL, -- Need OR

 multiBandInfoList-v10j0 MultiBandInfoList-v10j0 OPTIONAL, -- Need OR

 nonCriticalExtension SystemInformationBlockType1-v10l0-IEs OPTIONAL

}

SystemInformationBlockType1-v10l0-IEs ::= SEQUENCE {

 freqBandInfo-v10l0 NS-PmaxList-v10l0 OPTIONAL, -- Need OR

 multiBandInfoList-v10l0 MultiBandInfoList-v10l0 OPTIONAL, -- Need OR

 nonCriticalExtension SystemInformationBlockType1-v10x0-IEs OPTIONAL

}

SystemInformationBlockType1-v10x0-IEs ::= SEQUENCE {

 -- This field is only for late non-critical extensions from Rel-10 or Rel-11 onwards

 lateNonCriticalExtension OCTET STRING OPTIONAL,

 nonCriticalExtension SystemInformationBlockType1-v12j0-IEs OPTIONAL

}

SystemInformationBlockType1-v12j0-IEs ::= SEQUENCE {

 schedulingInfoList-v12j0 SchedulingInfoList-v12j0 OPTIONAL, -- Need OR

 schedulingInfoListExt-r12 SchedulingInfoListExt-r12 OPTIONAL, -- Need OR

 nonCriticalExtension SystemInformationBlockType1-v15g0-IEs OPTIONAL

}

SystemInformationBlockType1-v15g0-IEs ::= SEQUENCE {

 bandwidthReducedAccessRelatedInfo-v15g0 SEQUENCE {

 posSchedulingInfoList-BR-r15 SchedulingInfoList-BR-r13

 } OPTIONAL, -- Need OR

 nonCriticalExtension SEQUENCE {} OPTIONAL

}

-- Regular non critical extensions

SystemInformationBlockType1-v920-IEs ::= SEQUENCE {

 ims-EmergencySupport-r9 ENUMERATED {true} OPTIONAL, -- Need OR

 cellSelectionInfo-v920 CellSelectionInfo-v920 OPTIONAL, -- Cond RSRQ

 nonCriticalExtension SystemInformationBlockType1-v1130-IEs OPTIONAL

}

SystemInformationBlockType1-v1130-IEs ::= SEQUENCE {

 tdd-Config-v1130 TDD-Config-v1130 OPTIONAL, -- Cond TDD-OR

 cellSelectionInfo-v1130 CellSelectionInfo-v1130 OPTIONAL, -- Cond WB-RSRQ

 nonCriticalExtension SystemInformationBlockType1-v1250-IEs OPTIONAL

}

SystemInformationBlockType1-v1250-IEs ::= SEQUENCE {

 cellAccessRelatedInfo-v1250 SEQUENCE {

 category0Allowed-r12 ENUMERATED {true} OPTIONAL -- Need OP

 },

 cellSelectionInfo-v1250 CellSelectionInfo-v1250 OPTIONAL, -- Cond RSRQ2

 freqBandIndicatorPriority-r12 ENUMERATED {true} OPTIONAL, -- Cond mFBI

 nonCriticalExtension SystemInformationBlockType1-v1310-IEs OPTIONAL

}

SystemInformationBlockType1-v1310-IEs ::= SEQUENCE {

 hyperSFN-r13 BIT STRING (SIZE (10)) OPTIONAL, -- Need OR

 eDRX-Allowed-r13 ENUMERATED {true} OPTIONAL, -- Need OR

 cellSelectionInfoCE-r13 CellSelectionInfoCE-r13 OPTIONAL, -- Need OP

 bandwidthReducedAccessRelatedInfo-r13 SEQUENCE {

 si-WindowLength-BR-r13 ENUMERATED {

 ms20, ms40, ms60, ms80, ms120,

 ms160, ms200, spare},

 si-RepetitionPattern-r13 ENUMERATED {everyRF, every2ndRF, every4thRF,

 every8thRF},

 schedulingInfoList-BR-r13 SchedulingInfoList-BR-r13 OPTIONAL, -- Cond SI-BR

 fdd-DownlinkOrTddSubframeBitmapBR-r13 CHOICE {

 subframePattern10-r13 BIT STRING (SIZE (10)),

 subframePattern40-r13 BIT STRING (SIZE (40))

 } OPTIONAL, -- Need OP

 fdd-UplinkSubframeBitmapBR-r13 BIT STRING (SIZE (10)) OPTIONAL, -- Need OP

 startSymbolBR-r13 INTEGER (1..4),

 si-HoppingConfigCommon-r13 ENUMERATED {on,off},

 si-ValidityTime-r13 ENUMERATED {true} OPTIONAL, -- Need OP

 systemInfoValueTagList-r13 SystemInfoValueTagList-r13 OPTIONAL -- Need OR

 } OPTIONAL, -- Cond BW-reduced

 nonCriticalExtension SystemInformationBlockType1-v1320-IEs OPTIONAL

}

SystemInformationBlockType1-v1320-IEs ::= SEQUENCE {

 freqHoppingParametersDL-r13 SEQUENCE {

 mpdcch-pdsch-HoppingNB-r13 ENUMERATED {nb2, nb4} OPTIONAL, -- Need OR

 interval-DLHoppingConfigCommonModeA-r13 CHOICE {

 interval-FDD-r13 ENUMERATED {int1, int2, int4, int8},

 interval-TDD-r13 ENUMERATED {int1, int5, int10, int20}

 } OPTIONAL, -- Need OR

 interval-DLHoppingConfigCommonModeB-r13 CHOICE {

 interval-FDD-r13 ENUMERATED {int2, int4, int8, int16},

 interval-TDD-r13 ENUMERATED { int5, int10, int20, int40}

 } OPTIONAL, -- Need OR

 mpdcch-pdsch-HoppingOffset-r13 INTEGER (1..maxAvailNarrowBands-r13) OPTIONAL -- Need OR

 } OPTIONAL, -- Cond Hopping

 nonCriticalExtension SystemInformationBlockType1-v1350-IEs OPTIONAL

}

SystemInformationBlockType1-v1350-IEs ::= SEQUENCE {

 cellSelectionInfoCE1-r13 CellSelectionInfoCE1-r13 OPTIONAL, -- Need OP

 nonCriticalExtension SystemInformationBlockType1-v1360-IEs OPTIONAL

}

SystemInformationBlockType1-v1360-IEs ::= SEQUENCE {

 cellSelectionInfoCE1-v1360 CellSelectionInfoCE1-v1360 OPTIONAL, -- Cond QrxlevminCE1

 nonCriticalExtension SystemInformationBlockType1-v1430-IEs OPTIONAL

}

SystemInformationBlockType1-v1430-IEs ::= SEQUENCE {

 eCallOverIMS-Support-r14 ENUMERATED {true} OPTIONAL, -- Need OR

 tdd-Config-v1430 TDD-Config-v1430 OPTIONAL, -- Cond TDD-OR

 cellAccessRelatedInfoList-r14 SEQUENCE (SIZE (1..maxPLMN-1-r14)) OF

 CellAccessRelatedInfo-r14 OPTIONAL, -- Need OR

 nonCriticalExtension SystemInformationBlockType1-v1450-IEs OPTIONAL

}

SystemInformationBlockType1-v1450-IEs ::= SEQUENCE {

 tdd-Config-v1450 TDD-Config-v1450 OPTIONAL, -- Cond TDD-OR

 nonCriticalExtension SystemInformationBlockType1-v1530-IEs OPTIONAL

}

SystemInformationBlockType1-v1530-IEs ::= SEQUENCE {

 hsdn-Cell-r15 ENUMERATED {true} OPTIONAL, -- Need OR

 cellSelectionInfoCE-v1530 CellSelectionInfoCE-v1530 OPTIONAL, -- Need OP

 crs-IntfMitigConfig-r15 CHOICE {

 crs-IntfMitigEnabled NULL,

 crs-IntfMitigNumPRBs ENUMERATED {n6, n24}

 } OPTIONAL, -- Need OR

 cellBarred-CRS-r15 ENUMERATED {barred, notBarred},

 plmn-IdentityList-v1530 PLMN-IdentityList-v1530 OPTIONAL, -- Need OR

 posSchedulingInfoList-r15 PosSchedulingInfoList-r15 OPTIONAL, -- Need OR

 cellAccessRelatedInfo-5GC-r15 SEQUENCE {

 cellBarred-5GC-r15 ENUMERATED {barred, notBarred},

 cellBarred-5GC-CRS-r15 ENUMERATED {barred, notBarred},

 cellAccessRelatedInfoList-5GC-r15 SEQUENCE (SIZE (1..maxPLMN-r11)) OF

 CellAccessRelatedInfo-5GC-r15

 } OPTIONAL, -- Need OP

 ims-EmergencySupport5GC-r15 ENUMERATED {true} OPTIONAL, -- Need OR

 eCallOverIMS-Support5GC-r15 ENUMERATED {true} OPTIONAL, -- Need OR

 nonCriticalExtension SystemInformationBlockType1-v1540-IEs OPTIONAL

}

SystemInformationBlockType1-v1540-IEs ::= SEQUENCE {

 si-posOffset-r15 ENUMERATED {true} OPTIONAL, -- Need ON

 nonCriticalExtension SystemInformationBlockType1-v1610-IEs OPTIONAL

}

SystemInformationBlockType1-v1610-IEs ::= SEQUENCE {

 eDRX-Allowed-5GC-r16 ENUMERATED {true} OPTIONAL, -- Need OR

 transmissionInControlChRegion-r16 ENUMERATED {true} OPTIONAL, -- Cond BW-reduced

 campingAllowedInCE-r16 ENUMERATED {true} OPTIONAL, -- Need OR

 plmn-IdentityList-v1610 PLMN-IdentityList-v1610 OPTIONAL, -- Need OR

 nonCriticalExtension SIB1-v17xy-IEs OPTIONAL

}

SIB1-v17xy-IEs ::= SEQUENCE {

 uac-BarringInfo-v17xy SEQUENCE {

 uac-BarringInfoSetList-v17xy UAC-BarringInfoSetList-v17xy OPTIONAL -- Cond MINT

 } OPTIONAL, -- Need R

 nonCriticalExtension SEQUENCE {} OPTIONAL

}

PLMN-IdentityList ::= SEQUENCE (SIZE (1..maxPLMN-r11)) OF PLMN-IdentityInfo

PLMN-IdentityInfo ::= SEQUENCE {

 plmn-Identity PLMN-Identity,

 cellReservedForOperatorUse ENUMERATED {reserved, notReserved}

}

PLMN-IdentityList-v1530 ::= SEQUENCE (SIZE (1..maxPLMN-r11)) OF PLMN-IdentityInfo-v1530

PLMN-IdentityInfo-v1530 ::= SEQUENCE {

 cellReservedForOperatorUse-CRS-r15 ENUMERATED {reserved, notReserved}

}

PLMN-IdentityList-r15::= SEQUENCE (SIZE (1..maxPLMN-r11)) OF PLMN-IdentityInfo-r15

PLMN-IdentityList-v1610::= SEQUENCE (SIZE (1..maxPLMN-r11)) OF PLMN-IdentityInfo-v1610

PLMN-IdentityInfo-r15 ::= SEQUENCE {

 plmn-Identity-5GC-r15 CHOICE{

 plmn-Identity-r15 PLMN-Identity,

 plmn-Index-r15 INTEGER (1..maxPLMN-r11)

 },

 cellReservedForOperatorUse-r15 ENUMERATED {reserved, notReserved},

 cellReservedForOperatorUse-CRS-r15 ENUMERATED {reserved, notReserved}

}

PLMN-IdentityInfo-v1610 ::= SEQUENCE {

 cp-CIoT-5GS-Optimisation-r16 ENUMERATED {true} OPTIONAL, -- Need OR

 up-CIoT-5GS-Optimisation-r16 ENUMERATED {true} OPTIONAL, -- Need OR

 iab-Support-r16 ENUMERATED {true} OPTIONAL -- Need OR

}

SchedulingInfoList ::= SEQUENCE (SIZE (1..maxSI-Message)) OF SchedulingInfo

SchedulingInfoList-v12j0 ::= SEQUENCE (SIZE (1..maxSI-Message)) OF SchedulingInfo-v12j0

SchedulingInfoListExt-r12 ::= SEQUENCE (SIZE (1..maxSI-Message)) OF SchedulingInfoExt-r12

SchedulingInfo ::= SEQUENCE {

 si-Periodicity SI-Periodicity-r12,

 sib-MappingInfo SIB-MappingInfo

}

SchedulingInfo-v12j0 ::= SEQUENCE {

 sib-MappingInfo-v12j0 SIB-MappingInfo-v12j0 OPTIONAL -- Need OR

}

SchedulingInfoExt-r12 ::= SEQUENCE {

 si-Periodicity-r12 SI-Periodicity-r12,

 sib-MappingInfo-r12 SIB-MappingInfo-v12j0

}

SchedulingInfoList-BR-r13 ::= SEQUENCE (SIZE (1..maxSI-Message)) OF SchedulingInfo-BR-r13

SchedulingInfo-BR-r13 ::= SEQUENCE {

 si-Narrowband-r13 INTEGER (1..maxAvailNarrowBands-r13),

 si-TBS-r13 ENUMERATED {b152, b208, b256, b328, b408, b504, b600, b712, b808, b936}

}

SIB-MappingInfo ::= SEQUENCE (SIZE (0..maxSIB-1)) OF SIB-Type

SIB-MappingInfo-v12j0 ::= SEQUENCE (SIZE (1..maxSIB-1)) OF SIB-Type-v12j0

SIB-Type ::= ENUMERATED {

 sibType3, sibType4, sibType5, sibType6,

 sibType7, sibType8, sibType9, sibType10,

 sibType11, sibType12-v920, sibType13-v920,

 sibType14-v1130, sibType15-v1130,

 sibType16-v1130, sibType17-v1250, sibType18-v1250,

 ..., sibType19-v1250, sibType20-v1310, sibType21-v1430,

 sibType24-v1530, sibType25-v1530, sibType26-v1530,

 sibType26a-v1610, sibType27-v1610, sibType28-v1610,

 sibType29-v1610}

SIB-Type-v12j0 ::= ENUMERATED {

 sibType19-v1250, sibType20-v1310, sibType21-v1430,

 sibType24-v1530, sibType25-v1530, sibType26-v1530,

 sibType26a-v1610, sibType27-v1610, sibType28-v1610,

 sibType29-v1610, spare6, spare5,

 spare4, spare3, spare2, spare1, ...}

SI-Periodicity-r12 ::= ENUMERATED {rf8, rf16, rf32, rf64, rf128, rf256, rf512}

SystemInfoValueTagList-r13 ::= SEQUENCE (SIZE (1..maxSI-Message)) OF SystemInfoValueTagSI-r13

SystemInfoValueTagSI-r13 ::= INTEGER (0..3)

CellSelectionInfo-v920 ::= SEQUENCE {

 q-QualMin-r9 Q-QualMin-r9,

 q-QualMinOffset-r9 INTEGER (1..8) OPTIONAL -- Need OP

}

CellSelectionInfo-v1130 ::= SEQUENCE {

 q-QualMinWB-r11 Q-QualMin-r9

}

CellSelectionInfo-v1250 ::= SEQUENCE {

 q-QualMinRSRQ-OnAllSymbols-r12 Q-QualMin-r9

}

CellAccessRelatedInfo-r14 ::= SEQUENCE {

 plmn-IdentityList-r14 PLMN-IdentityList,

 trackingAreaCode-r14 TrackingAreaCode,

 cellIdentity-r14 CellIdentity

}

CellAccessRelatedInfo-5GC-r15 ::= SEQUENCE {

 plmn-IdentityList-r15 PLMN-IdentityList-r15,

 ran-AreaCode-r15 RAN-AreaCode-r15 OPTIONAL, -- Need OR

 trackingAreaCode-5GC-r15 TrackingAreaCode-5GC-r15,

 cellIdentity-5GC-r15 CellIdentity-5GC-r15

}

CellIdentity-5GC-r15 ::= CHOICE{

 cellIdentity-r15 CellIdentity,

 cellId-Index-r15 INTEGER (1..maxPLMN-r11)

}

PosSchedulingInfoList-r15 ::= SEQUENCE (SIZE (1..maxSI-Message)) OF PosSchedulingInfo-r15

PosSchedulingInfo-r15 ::= SEQUENCE {

 posSI-Periodicity-r15 ENUMERATED {rf8, rf16, rf32, rf64, rf128, rf256, rf512},

 posSIB-MappingInfo-r15 PosSIB-MappingInfo-r15

}

PosSIB-MappingInfo-r15 ::= SEQUENCE (SIZE (1..maxSIB)) OF PosSIB-Type-r15

PosSIB-Type-r15 ::= SEQUENCE {

 encrypted-r15 ENUMERATED { true } OPTIONAL, -- Need OP

 gnss-id-r15 GNSS-ID-r15 OPTIONAL, -- Need OP

 sbas-id-r15 SBAS-ID-r15 OPTIONAL, -- Need OP

 posSibType-r15 ENUMERATED { posSibType1-1,

 posSibType1-2,

 posSibType1-3,

 posSibType1-4,

 posSibType1-5,

 posSibType1-6,

 posSibType1-7,

 posSibType2-1,

 posSibType2-2,

 posSibType2-3,

 posSibType2-4,

 posSibType2-5,

 posSibType2-6,

 posSibType2-7,

 posSibType2-8,

 posSibType2-9,

 posSibType2-10,

 posSibType2-11,

 posSibType2-12,

 posSibType2-13,

 posSibType2-14,

 posSibType2-15,

 posSibType2-16,

 posSibType2-17,

 posSibType2-18,

 posSibType2-19,

 posSibType3-1,

 ...,

 posSibType1-8-v1610,

 posSibType2-20-v1610,

 posSibType2-21-v1610,

 posSibType2-22-v1610,

 posSibType2-23-v1610,

 posSibType2-24-v1610,

 posSibType2-25-v1610,

 posSibType4-1-v1610,

 posSibType5-1-v1610

 },

 ...

}

-- ASN1STOP

| *SystemInformationBlockType1* field descriptions |
| --- |
| ***bandwithReducedAccessRelatedInfo***Access related information for BL UEs and UEs in CE. NOTE 3. |
| ***campingAllowedInCE***Indicates whether non-BL UE is allowed to camp in the non-standalone BL cell in enhanced coverage mode when S-criterion for normal coverage is fulfilled. The field is not applicable for standalone BL cell. |
| ***category0Allowed***The presence of this field indicates category 0 UEs are allowed to access the cell. |
| ***cellAccessRelatedInfoList***This field contains a list allowing signalling of access related information per PLMN. One PLMN can be included in only one entry of this list. NOTE 4. |
| ***cellAccessRelatedInfoList-5GC***This field contains a PLMN list and a list allowing signalling of access related information per PLMN for PLMNs that provides connectivity to 5GC. One PLMN can be included in only one entry of this list. NOTE4 |
| ***cellBarred, cellBarred-CRS***barred means the cell is barred, as defined in TS 36.304 [4]. |
| ***cellBarred-5GC, cellBarred-5GC-CRS***barred means the cell is barred for connectivity to 5GC, as defined in TS 36.304 [4].  |
| ***cellIdentity***Indicates the cell identity. NOTE 2. |
| ***cellId-Index***The index of the cell ID in the PLMN lists for EPC, indicates UE the corresponding cell ID is used for 5GC. Value 1 indicates the cell ID of the 1st PLMN list for EPC in the SIB1. Value 2 indicates the cell ID of the 2nd PLMN list for EPC, and so on. |
| ***cellReservedForOperatorUse, cellReservedForOperatorUse-CRS***As defined in TS 36.304 [4]. |
| ***cellSelectionInfoCE***Cell selection information for BL UEs and UEs in CE. If absent, coverage enhancement S criteria is not applicable. NOTE 3. |
| ***cellSelectionInfoCE1***Cell selection information for BL UEs and UEs in CE supporting CE Mode B. E-UTRAN includes this IE only if *cellSelectionInfoCE* is present in *SystemInformationBlockType1-BR*. NOTE 3. |
| ***cp-CIoT-5GS-Optimisation***Indicates whether the UE is allowed to establish the connection with Control plane CIoT 5GS optimisation, see TS 24.501 [95]. |
| ***crs-IntfMitigConfig****crs-IntfMitigEnabled* indicates CRS interference mitigation is enabled for the cell, as specified in TS 36.133 [16], clause 3.6.1.1. For BL UEs supporting *ce-CRS-IntfMitig,* presence of *crs-IntfMitigNumPRBs* indicates CRS interference mitigation is enabled in the cell, as specified in TS 36.133 [16], clauses 3.6.1.2 and 3.6.1.3, and the value of *crs-IntfMitigNumPRBs* indicates number of PRBs, i.e. 6 or 24 PRBs, for CRS transmission in the central cell BW when CRS interference mitigation is enabled. For UEs not supporting this feature, the behaviour is undefined if this field is configured and the field *cellBarred* in *SystemInformationBlockType1* (*SystemInformationBlockType1-BR* for BL UEs or UEs in CE) is set to *notbarred*. |
| ***csg-Identity***Identity of the Closed Subscriber Group the cell belongs to. |
| ***csg-Indication***If set to TRUE the UE is only allowed to access the cell if it is a CSG member cell, if selected during manual CSG selection or to obtain limited service, see TS 36.304 [4]. |
| ***eCallOverIMS-Support***Indicates whether the cell supports eCall over IMS services via EPC for UEs as defined in TS 23.401 [41]. If absent, eCall over IMS via EPC is not supported by the network in the cell.NOTE 2. |
| ***eCallOverIMS-Support5GC***Indicates whether the cell supports eCall over IMS services via 5GC as defined in TS 23.401 [41]. If absent, eCall over IMS via 5GC is not supported by the network in the cell.NOTE 2. |
| ***eDRX-Allowed***The presence of this field indicates if idle mode extended DRX is allowed in the cell for the UE connected to EPC. The UE shall stop using extended DRX in idle mode if *eDRX-Allowed* is not present when connected to EPC. |
| ***eDRX-Allowed-5GC***The presence of this field indicates if idle mode extended DRX is allowed in the cell for the UE connected to 5GC. The UE shall stop using extended DRX in idle mode if *eDRX-Allowed-5GC* is not present when connected to 5GC. |
| ***encrypted***The presence of this field indicates that the posSibType is encrypted as specified in TS 36.355 [54]. |
| ***fdd-DownlinkOrTddSubframeBitmapBR***The set of valid subframes for FDD downlink or TDD transmissions, see TS 36.213 [23].If this field is present, *SystemInformationBlockType1-BR-r13* is transmitted in *RRCConnectionReconfiguration*, and if *RRCConnectionReconfiguration* does not include *systemInformationBlockType2Dedicated*, UE may assume the valid subframes in fdd-*DownlinkOrTddSubframeBitmapBR* are not indicated as MBSFN subframes. If this field is not present, the set of valid subframes is the set of non-MBSFN subframes as indicated by *mbsfn-SubframeConfigList*. If neither this field nor *mbsfn-SubframeConfigList* is present, all subframes are considered as valid subframes for FDD downlink transmission, all DL subframes according to the uplink-downlink configuration (see TS 36.211 [21]) are considered as valid subframes for TDD DL transmission, and all UL subframes according to the uplink-downlink configuration (see TS 36.211 [21]) are considered as valid subframes for TDD UL transmission.The first/leftmost bit corresponds to the subframe #0 of the radio frame satisfying SFN mod x = 0, where x is the size of the bit string divided by 10. Value 0 in the bitmap indicates that the corresponding subframe is invalid for transmission. Value 1 in the bitmap indicates that the corresponding subframe is valid for transmission. |
| ***fdd-UplinkSubframeBitmapBR***The set of valid subframes for FDD uplink transmissions for BL UEs, see TS 36.213 [23].If the field is not present, then UE considers all uplink subframes as valid subframes for FDD uplink transmissions.The first/leftmost bit corresponds to the subframe #0 of the radio frame satisfying SFN mod x = 0, where x is the size of the bit string divided by 10. Value 0 in the bitmap indicates that the corresponding subframe is invalid for transmission. Value 1 in the bitmap indicates that the corresponding subframe is valid for transmission. |
| ***freqBandIndicatorPriority***If the field is present and supported by the UE, the UE shall prioritize the frequency bands in the *multiBandInfoList* field in decreasing priority order. Only if the UE does not support any of the frequency band in *multiBandInfoList,* the UE shall use the value in *freqBandIndicator* field. Otherwise, the UE applies frequency band according to the rules defined in *multiBandInfoList.* NOTE 2. |
| ***freqBandInfo***A list of *additionalPmax* and *additionalSpectrumEmission* values, as defined in TS 36.101 [42], table 6.2.4-1, for UEs neither in CE nor BL UEs and TS 36.101 [42], table 6.2.4E-1, for UEs in CE or BL UEs, for the frequency band in *freqBandIndicator*. If E-UTRAN includes *freqBandInfo-v10l0* it includes the same number of entries, and listed in the same order, as in *freqBandInfo-r10*. |
| ***freqHoppingParametersDL***Downlink frequency hopping parameters for BR versions of SI messages, MPDCCH/PDSCH of paging, MPDCCH/PDSCH of RAR/Msg4 and unicast MPDCCH/PDSCH. If not present, the UE is not configured downlink frequency hopping. |
| ***gnss-ID***The presence of this field indicates that the *posSibType* is for a specific GNSS. |
| ***hsdn-Cell***This field indicates this is a HSDN cell as specified in TS 36.304 [4]. |
| ***hyperSFN***Indicates hyper SFN which increments by one when the SFN wraps around. |
| ***iab-Support***This field combines both the support of IAB-node and the cell status for IAB-node. If the field is present, the cell supports IAB-nodes and the cell is also considered as a candidate for cell (re)selection for IAB-nodes; if the field is absent, the cell does not support IAB and/or the cell is barred for IAB-node. |
| ***ims-EmergencySupport***Indicates whether the cell supports IMS emergency bearer services via EPC for UEs in limited service mode. If absent, IMS emergency call via EPC is not supported by the network in the cell for UEs in limited service mode.NOTE 2. |
| ***ims-EmergencySupport5GC***Indicates whether the cell supports IMS emergency bearer services for UEs in limited service mode via 5GC. If absent, IMS emergency call via 5GC is not supported by the network in the cell for UEs in limited service mode. NOTE 2. |
| ***intraFreqReselection***Used to control cell reselection to intra-frequency cells when the highest ranked cell is barred, or treated as barred by the UE, as specified in TS 36.304 [4].NOTE 2. |
| ***multiBandInfoList***A list of additional frequency band indicators, as defined in TS 36.101 [42], table 5.5-1, that the cell belongs to. If the UE supports the frequency band in the *freqBandIndicator* field it shall apply that frequency band. Otherwise, the UE shall apply the first listed band which it supports in the *multiBandInfoList* field. If E-UTRAN includes *multiBandInfoList-v9e0* it includes the same number of entries, and listed in the same order, as in *multiBandInfoList* (i.e. without suffix). See Annex D for more descriptions. The UE shall ignore the rule defined in this field description if *freqBandIndicatorPriority*is present and supported by the UE. |
| ***multiBandInfoList-v10j0***A list of *additionalPmax* and *additionalSpectrumEmission* values, as defined in TS 36.101 [42], table 6.2.4-1, for UEs neither in CE nor BL UEs and TS 36.101 [42], table 6.2.4E-1, for UEs in CE or BL UEs, for the frequency bands in *multiBandInfoList* (i.e. without suffix) and *multiBandInfoList-v9e0*. If E-UTRAN includes *multiBandInfoList-v10j0*, it includes the same number of entries, and listed in the same order, as in *multiBandInfoList* (i.e. without suffix). If E-UTRAN includes *multiBandInfoList-v10l0* it includes the same number of entries, and listed in the same order, as in *multiBandInfoList-v10j0*. |
| ***plmn-IdentityList***List of PLMN identities. The first listed *PLMN-Identity* is the primary PLMN.If *plmn-IdentityList-v1530* is included, E-UTRAN includes the same number of entries, and listed in the same order, as in *plmn-IdentityList* (without suffix). If *plmn-IdentityList-v1610* is included, E-UTRAN includes the same number of entries, and listed in the same order, as in *plmn-IdentityList-r15*. NOTE 2. |
| ***plmn-Index***Index of the PLMN in the *plmn-IdentityList* fields included in SIB1 for EPC, indicating the same PLMN ID is connected to 5GC. Value 1 indicates the 1st PLMN in the 1st *plmn-IdentityList* included in SIB1, value 2 indicates the 2nd PLMN in the same *plmn-IdentityList*, or when no more PLMNs are present within the same *plmn-IdentityList*, then the PLMN listed 1st in the subsequent *plmn-IdentityList* within the same SIB1 and so on. NOTE 6. |
| ***p-Max***Value applicable for the cell. If absent the UE applies the maximum power according to its capability as specified in TS 36.101 [42], clause 6.2.2.NOTE 2. This field is ignored by IAB-MT. The IAB-MT applies output power and emissions requirements, as specified in TS 38.174 [107]. |
| ***posSchedulingInfoList-BR***Indicates additional scheduling information of positioning SI messages for BL UEs and UEs in CE. E-UTRAN always includes this field if *posSchedulingInfoList-r15* is included in *SystemInformationBlockType1-BR*, and includes the same number of entries, and listed in the same order, as in *posSchedulingInfoList-r15*. |
| ***posSIB-MappingInfo***List of the posSIBs mapped to this *SystemInformation* message. |
| ***posSibType***The positioning SIB type is defined in TS 36.355 [54]. |
| ***q-QualMin***Parameter "Qqualmin" in TS 36.304 [4]. If *cellSelectionInfo-v920* is not present, the UE applies the (default) value of negative infinity for Qqualmin. NOTE 1. |
| ***q-QualMinRSRQ-OnAllSymbols***If this field is present and supported by the UE, the UE shall, when performing RSRQ measurements, perform RSRQ measurement on all OFDM symbols in accordance with TS 36.214 [48]. NOTE 1. |
| ***q-QualMinOffset***Parameter "Qqualminoffset" in TS 36.304 [4]. Actual value Qqualminoffset = field value [dB]. If *cellSelectionInfo-v920* is not present or the field is not present, the UE applies the (default) value of 0 dB for Qqualminoffset.Affects the minimum required quality level in the cell. |
| ***q-QualMinWB***If this field is present and supported by the UE, the UE shall, when performing RSRQ measurements, use a wider bandwidth in accordance with TS 36.133 [16]. NOTE 1. |
| ***q-RxLevMinOffset***Parameter Qrxlevminoffset in TS 36.304 [4]. Actual value Qrxlevminoffset = field value \* 2 [dB]. If absent, the UE applies the (default) value of 0 dB for Qrxlevminoffset*.* Affects the minimum required Rx level in the cell. |
| ***sbas-ID***The presence of this field indicates that the *posSibType* is for a specific SBAS. |
| ***schedulingInfoList***Indicates scheduling information of SI messages. The *schedulingInfoList-v12j0* (if present) provides additional SIBs mapped into the SI message scheduled via *schedulingInfoList* (without suffix). If E-UTRAN includes *schedulingInfoList-v12j0*, it includes the same number of entries, and listed in the same order, as in *schedulingInfoList* (without suffix). |
| ***schedulingInfoListExt***Indicates scheduling information of additional SI messages. The UE concatenates the entries of *schedulingInfoListExt* to the entries in *schedulingInfoList*, according to the general concatenation principles for list extension as defined in 5.1.2. If the *schedulingInfoListExt* is present, E-UTRAN ensures that the total number of entries of this field plus *schedulingInfoList* (without suffix) shall not exceed the value of *maxSI-Message*. |
| ***sib-MappingInfo***List of the SIBs mapped to this *SystemInformation* message. There is no mapping information of SIB2; it is always present in the first *SystemInformation* message listed in the *schedulingInfoList* (without suffix) list. If present, *sib-MappingInfo-v12j0* indicates one or more additional SIBs mapped to the concerned SI message listed in the *schedulingInfoList* (without suffix) list. If *schedulingInfoList-v12j0* or *schedulingInfoListExt-r12* is present, E-UTRAN does not include any value indicating SIB of type 19 or higher in *sib-MappingInfo* (without suffix). If *schedulingInfoList-v12j0* is present, E-UTRAN ensures that the total number of entries of this field plus *sib-MappingInfo* (without suffix) shall not exceed the value of *maxSIB-1*. |
| ***si-HoppingConfigCommon***Frequency hopping activation/deactivation for BR versions of SI messages and MPDCCH/PDSCH of paging. |
| ***si-Narrowband***This field indicates the index of a narrowband used to broadcast the SI message towards BL UEs and UEs in CE, see TS 36.211 [21], clause 6.4.1 and TS 36.213 [23], clause 7.1.6. Field values (1..*maxAvailNarrowBands-r13*) correspond to narrowband indices (0..*maxAvailNarrowBands-r13*-1) as specified in TS 36.211 [21]. |
| ***si-RepetitionPattern***Indicates the radio frames within the SI window used for SI message transmission. Value everyRF corresponds to every radio frame, value every2ndRF corresponds to every 2 radio frames, and so on. The first transmission of the SI message is transmitted from the first radio frame of the SI window. |
| ***si-Periodicity, posSI-Periodicity***Periodicity of the SI-message in radio frames, such that rf8 denotes 8 radio frames, rf16 denotes 16 radio frames, and so on. If the *si-posOffset* is configured, the *posSI-Periodicity* of rf8 cannot be used. |
| ***si-posOffset***This field, if present and set to *true* indicates that the SI messages in *PosSchedulingInfoList* are scheduled with an offset of 8 radio frames compared to SI messages in *SchedulingInfoList*. *si-posOffset* may be present only if the shortest configured SI message periodicity for SI messages in *SchedulingInfoList* is 80ms. |
| ***si-TBS***This field indicates the transport block size information used to broadcast the SI message towards BL UEs and UEs in CE, see TS 36.213 [23], Table 7.1.7.2.1-1, for a 6 PRB bandwidth and a QPSK modulation. |
| ***schedulingInfoList-BR***Indicates additional scheduling information of SI messages for BL UEs and UEs in CE. It includes the same number of entries, and listed in the same order, as in *schedulingInfoList* (without suffix). |
| ***si-ValidityTime***Indicates system information validity timer. If set to TRUE, the timer is set to 3h, otherwise the timer is set to 24h. |
| ***si-WindowLength, si-WindowLength-BR***Common SI scheduling window for all SIs. Unit in milliseconds, where ms1 denotes 1 millisecond, ms2 denotes 2 milliseconds and so on. In case s*i-WindowLength-BR-r13* is present and the UE is a BL UE or a UE in CE, the UE shall use s*i-WindowLength-BR-r13* and ignore the original field *si-WindowLength* (without suffix). UEs other than BL UEs or UEs in CE shall ignore the extension field s*i-WindowLength-BR-r13.* |
| ***startSymbolBR***For BL UEs and UEs in CE, indicates the OFDM starting symbol for any MPDCCH, PDSCH scheduled on the same cell except the PDSCH carrying *SystemInformationBlockType1-BR*, see TS 36.213 [23]. Values 1, 2, and 3 are applicable for *dl-Bandwidth* greater than 10 resource blocks. Values 2, 3, and 4 are applicable otherwise. |
| ***systemInfoValueTagList***Indicates SI message specific value tags for BL UEs and UEs in CE. It includes the same number of entries, and listed in the same order, as in *schedulingInfoList* (without suffix). |
| ***systemInfoValueTagSI***SI message specific value tag as specified in clause 5.2.1.3. Common for all SIBs within the SI message other than MIB, SIB1, SIB10, SIB11, SIB12 and SIB14. |
| ***systemInfoValueTag***Common for all SIBs other than MIB, MIB-MBMS, SIB1, SIB1-MBMS, SIB10, SIB11, SIB12 and SIB14. Change of MIB, MIB-MBMS, SIB1 and SIB1-MBMS is detected by acquisition of the corresponding message. |
| ***tdd-Config***Specifies the TDD specific physical channel configurations. NOTE 2. |
| ***trackingAreaCode/trackingAreaCode-5GC***A *trackingAreaCode* that is common for all the PLMNs listed. NOTE2. NOTE 5. |
| ***transmissionInControlChRegion***Indicates, for BL UEs and UEs in CE, LTE control channel region may be used for DL broadcast transmission. NOTE 3. |
| ***up-CIoT-5GS-Optimisation***Indicates whether the UE is allowed to resume the connection with User plane CIoT 5GS optimisation, see TS 24.501 [95]. |

NOTE 1: The value the UE applies for parameter "Qqualmin" in TS 36.304 [4] depends on the *q-QualMin* fields signalled by E-UTRAN and supported by the UE. In case multiple candidate options are available, the UE shall select the highest priority candidate option according to the priority order indicated by the following table (top row is highest priority).

|  |  |  |
| --- | --- | --- |
| q-QualMinRSRQ-OnAllSymbols | q-QualMinWB | Value of parameter "Qqualmin" in TS 36.304 [4] |
| Included | Included | *q-QualMinRSRQ-OnAllSymbols* – (*q-QualMin* – *q-QualMinWB*) |
| Included | Not included | *q-QualMinRSRQ-OnAllSymbols* |
| Not included | Included | *q-QualMinWB* |
| Not included | Not included | *q-QualMin* |

NOTE 2: E-UTRAN sets this field to the same value for all instances of SIB1 message that are broadcasted within the same cell.

NOTE 3: E-UTRAN configures this field only in the BR version of SIB1 message.

NOTE 4: E-UTRAN configures at most 6 EPC PLMNs in total (i.e. across all the PLMN lists except for PLMN lists in *cellAccessRelatedInfoList-5GC* in SIB1). E-UTRAN configures at most 6 5GC PLMNs in total (i.e. across all the PLMN lists in *cellAccessRelatedInfoList-5GC* in SIB1).

NOTE 5: E-UTRAN configures only one value for this parameter per PLMN.

NOTE 6: E-UTRAN configures *plmn-Index* only if the *cellBarred* is set to *notBarred.*

| Conditional presence | Explanation |
| --- | --- |
| *BW-reduced* | The field is optional present, Need OR, if *schedulingInfoSIB1-BR* in MIB is set to a value greater than 0. Otherwise the field is not present. |
| *FBI-max* | The field is mandatory present if *freqBandIndicator* (i.e. without suffix) is set to *maxFBI*. Otherwise the field is not present. |
| *mFBI* | The field is optional present, Need OR, if *multiBandInfoList* is present. Otherwise the field is not present. |
| *mFBI-max* | The field is mandatory present if one or more entries in *multiBandInfoList* (i.e. without suffix, introduced in -v8h0) is set to *maxFBI*. Otherwise the field is not present. |
| *RSRQ* | The field is mandatory present if SIB3 is being broadcast and *threshServingLowQ* is present in SIB3; otherwise optionally present, Need OP. |
| *RSRQ2* | The field is mandatory present if *q-QualMinRSRQ-OnAllSymbols* is present in SIB3; otherwise it is not present and the UE shall delete any existing value for this field. |
| *Hopping* | The field is mandatory present if *si-HoppingConfigCommon* field is broadcasted and set to *on*. Otherwise the field is optionally present, need OP. |
| *MINT* | The field is optionally present, Need OR, in a cell that provides a configuration for disaster roaming, otherwise it is absent. |
| *QrxlevminCE1* | The field is optionally present, Need OR, if *q-RxLevMinCE1-r13* is set below -140 dBm. Otherwise the field is not present. |
| *TDD* | This field is mandatory present for TDD; it is not present for FDD and the UE shall delete any existing value for this field. |
| *TDD-OR* | The field is optional present for TDD, need OR; it is not present for FDD. |
| *WB-RSRQ* | The field is optionally present, need OP if the measurement bandwidth indicated by *allowedMeasBandwidth* in *systemInformationBlockType3* is 50 resource blocks or larger; otherwise it is not present. |
| *SI-BR* | The field is mandatory present if *schedulingInfoSIB1-BR* is included in MIB with a value greater than 0. Otherwise the field is not present. |

Next change

### 6.3.1 System information blocks

<Omitted unchanged parts>

#### – *SystemInformationBlockType25*

The IE *SystemInformationBlockType25* contains the UAC parameters.

*SystemInformationBlockType25* information element

-- ASN1START

SystemInformationBlockType25-r15 ::= SEQUENCE {

 uac-BarringForCommon-r15 UAC-BarringPerCatList-r15 OPTIONAL, -- Need OP

 uac-BarringPerPLMN-List-r15 UAC-BarringPerPLMN-List-r15 OPTIONAL, -- Need OP

 uac-BarringInfoSetList-r15 UAC-BarringInfoSetList-r15,

 uac-AC1-SelectAssistInfo-r15 CHOICE {

 plmnCommon-r15 UAC-AC1-SelectAssistInfo-r15,

 individualPLMNList-r15 SEQUENCE (SIZE (2..maxPLMN-r11)) OF UAC-AC1-SelectAssistInfo-r15

 } OPTIONAL, -- Need OR

 lateNonCriticalExtension OCTET STRING OPTIONAL,

 ...,

 [[ ab-PerRSRP-r16 ENUMERATED {thresh0, thresh1, thresh2, thresh3} OPTIONAL -- Need OR

 ]],

 [[

 uac-AC1-SelectAssistInfo-r16 SEQUENCE (SIZE (2..maxPLMN-r11)) OF UAC-AC1-SelectAssistInfo-r16 OPTIONAL -- Need OR

 ]]

}

UAC-BarringPerPLMN-List-r15::= SEQUENCE (SIZE (1.. maxPLMN-r11)) OF UAC-BarringPerPLMN-r15

UAC-BarringPerPLMN-r15 ::= SEQUENCE {

 plmn-IdentityIndex-r15 INTEGER (1.. maxPLMN-r11),

 uac-AC-BarringListType-r15 CHOICE{

 uac-ImplicitAC-BarringList-r15 SEQUENCE (SIZE(maxAccessCat-1-r15)) OF UAC-BarringInfoSetIndex-r15,

 uac-ExplicitAC-BarringList-r15 UAC-BarringPerCatList-r15

 } OPTIONAL -- Need OR

}

UAC-BarringPerCatList-r15 ::= SEQUENCE (SIZE (1..maxAccessCat-1-r15)) OF UAC-BarringPerCat-r15

UAC-BarringPerCat-r15 ::= SEQUENCE {

 accessCategory-r15 INTEGER (1..maxAccessCat-1-r15),

 uac-barringInfoSetIndex-r15 UAC-BarringInfoSetIndex-r15

}

UAC-BarringInfoSetIndex-r15 ::= INTEGER (1..maxBarringInfoSet-r15)

UAC-BarringInfoSetList-r15 ::= SEQUENCE (SIZE (1..maxBarringInfoSet-r15)) OF UAC-BarringInfoSet-r15

UAC-BarringInfoSetList-v17xy ::= SEQUENCE (SIZE(1..maxBarringInfoSet)) OF UAC-BarringInfoSet-v17xy

UAC-BarringInfoSet-r15 ::= SEQUENCE {

 uac-BarringFactor-r15 ENUMERATED {

 p00, p05, p10, p15, p20, p25, p30, p40,

 p50, p60, p70, p75, p80, p85, p90, p95},

 uac-BarringTime-r15 ENUMERATED {s4, s8, s16, s32, s64, s128, s256, s512},

 uac-BarringForAccessIdentity-r15 BIT STRING (SIZE(7))

}

UAC-BarringInfoSet-v17xy ::= SEQUENCE {

 uac-BarringFactorForAI3-r17 ENUMERATED {p00, p05, p10, p15, p20, p25, p30, p40,

 p50, p60, p70, p75, p80, p85, p90, p95} OPTIONAL -- Need S

}

UAC-AC1-SelectAssistInfo-r15::= ENUMERATED {a, b, c}

UAC-AC1-SelectAssistInfo-r16::= ENUMERATED {a, b, c, notConfigured}

-- ASN1STOP

| *SystemInformationBlockType25* field descriptions |
| --- |
| ***accessCategory***The Access Category according to TS 22.261 [96]. |
| ***ab-PerRSRP***Access barring per RSRP. Value *thresh0* means access to the cell is barred when UE is in enhanced coverage as specified in TS 36.304 [4] and does not apply to UEs satisfying S criteria for normal coverage. Value *thresh1* is compared to the first entry configured in *rsrp-ThresholdsPrachInfoList*, value thresh2 is compared to the second entry configured in *rsrp-ThresholdsPrachInfoList* and so on. E-UTRA/5GC includes this field only in the BR version of *SystemInformationBlockType25.* |
| ***uac-AC-BarringListType***Access control parameters for each access category valid only for a specific PLMN. UE behaviour upon absence of this field is specified in clause 5.3.16.2. |
| ***uac-AC1-SelectAssistInfo***Information used to determine whether Access Category 1 applies to the UE, as defined in TS 22.261 [96]. If *plmnCommon* is chosen, the *UAC-AC1-SelectAssistInfo* is applicable to all the PLMNs in *cellAccessRelatedInfoList-5GC*. If *individualPLMNList* is chosen, the 1st entry in the list corresponds to the first PLMN in *cellAccessRelatedInfoList-5GC*, the 2nd entry in the list corresponds to the second PLMN in *cellAccessRelatedInfoList-5GC* and so on. If *uac-AC1-SelectAssistInfo-r16* is present, the UE shall ignore the *uac-AC1-SelectAssistInfo-r15*. Value *notConfigured* indicates that Access Category1 is not configured for the corresponding PLMN. The corresponding *UAC-AC1-SelectAssistInfo* for the selected PLMN is forwarded to upper layers, if present and set to *a*, *b* or *c*. |
| ***uac-BarringFactor***Represents the probability that access attempt would be allowed during access barring check. |
| ***uac-BarringFactorForAI3***Barring factor applicable for Access Identity 3. Represents the probability that access attempt would be allowed during access barring check. If absent, the UE considers the access attempt as allowed. |
| ***uac-BarringForAccessIdentity***Indicates whether access attempt is allowed for each Access Identity. The leftmost bit, bit 0 in the bit string corresponds to Access Identity 1, bit 1 in the bit string corresponds to Access Identity 2, bit 2 in the bit string corresponds to Access Identity 11, bit 3 in the bit string corresponds to Access Identity 12 and so on. Value 0 means that access attempt is allowed for the corresponding access identity. |
| ***uac-BarringForCommon***Common access control parameters for each access category. Common values are used for all PLMNs, unless overwritten by the PLMN specific configuration provided in *uac-BarringPerPLMN-List.* The parameters are specified by providing an index to the set of configurations (*uac-BarringInfoSetList*). UE behaviour upon absence of this field is specified in clause 5.3.16.2. |
| ***uac-barringInfoSetIndex***Index of the entry in field *uac-BarringInfoSetList*. Value 1 corresponds to the first entry in *uac-BarringInfoSetList,* value 2 corresponds to the second entry in this list and so on. An index value referring to an entry not included in *uac-BarringInfoSetList* indicates no barring. |
| ***uac-BarringInfoSetList***List of access control parameter sets. Each access category can be configured with access parameters corresponding to a particular set by *uac-barringInfoSetIndex*. Association of an access category with an index that has no corresponding entry in the *uac-BarringInfoSetList* is valid configuration and indicates no barring. |
| ***uac-BarringPerPLMN-List***Access control parameters for each access category valid only for a specific PLMN. |
| ***uac-BarringTime***The average time in seconds before a new access attempt is to be performed after an access attempt was barred at access barring check for the same access category, see 5.3.16.5. |

<Omitted unchanged parts>

– *SystemInformationBlockTypeX*

The IE *SystemInformationBlockTypeX* contains configurations of disaster roaming information.

***SystemInformationBlockTypeX* information element**

-- ASN1START

SystemInformationBlockTypeX-r17 ::= SEQUENCE {

 commonPLMNsWithDisasterCondition-r17 SEQUENCE (SIZE (1..maxPLMN)) OF PLMN-Identity OPTIONAL, -- Need R

 applicableDisasterInfoList-r17 SEQUENCE (SIZE (1..maxPLMN)) OF ApplicableDisasterInfo-r17 OPTIONAL, -- Need R

 lateNonCriticalExtension OCTET STRING OPTIONAL,

 ...

}

ApplicableDisasterPLMNs-r17 ::= CHOICE {

 noDisasterRoaming-r17 NULL,

 oneBitApproach-r17 NULL, -- The semantics for this approach is pending CT1 progress

 commonPLMNs-r17 NULL,

 dedicatedPLMNs-r17 SEQUENCE (SIZE (1..maxPLMN)) OF PLMN-Identity

}

-- ASN1STOP

| ***SystemInformationBlockTypeX* field descriptions** |
| --- |
| ***commonPLMNsWithDisasterCondition***A list of PLMN(s) with disaster condition which can be commonly applicable to the PLMNs sharing the cell. |
| ***applicableDisasterInfoList***A list indicating the applicable disaster information for the networks indicated in *plmn-IdentityList*. The first entry in this list indicates the disaster information applicable for the network(s) in the first entry of *plmn-IdentityList*, the second entry in this list indicates the disaster information applicable for the network(s) in the second entry on *plmn-IdentityList*, and so on. Each entry in this list can either be having the value *noDisasterRoaming*, *oneBitApproach*, *commonPLMNs*, or can contain a list of *dedicatedPLMNs*. If an entry in this list takes the value *noDisasterRoaming*, disaster roaming is not allowed for this network(s). If an entry in this list takes the value *oneBitApproach*, [TBD what happens]. If an entry in this list takes the value *commonPLMNs*, the PLMN(s) with disaster conditions indicated in the field *commonPLMNsWithDisasterCondition* apply for this entry. If an entry in this list contains the list *dedicatedPLMNs*, the listed PLMN(s) are the PLMN(s) with disaster conditions that apply to the network(s) corresponding to this entry. |