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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
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Introduction

The present document is part of a TS-family covering the 3rd Generation Partnership Project; Technical Specification Group Services and System Aspects; Telecommunication management; as identified below:

28.651: "UTRAN Network Resource Model (NRM) Integration Reference Point (IRP); Requirements".

28.652: "UTRAN Network Resource Model (NRM) Integration Reference Point (IRP): Information Service (IS) ".

28.653: "UTRAN Network Resource Model (NRM) Integration Reference Point (IRP); Solution Set (SS) definitions".

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1 Scope

The present document specifies the UTRAN Network Resource Model (NRM) that can be communicated between an IRPAgent and an IRPManager for telecommunication network management purposes, including management of converged networks.

The present document specifies the semantics and behaviour of information object class attributes and relations visible across the reference point in a protocol and technology neutral way. It does not define their syntax and encoding.

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 TS 32.101: "Telecommunication management; Principles and high level requirements".

[2] 3GPP TS 32.102: "Telecommunication management; Architecture".

[3] 3GPP TS 23.003: "Numbering, addressing and identification".

[4] 3GPP TS 25.401: "UTRAN Overall Description".

[5] 3GPP TS 25.433: "UTRAN Iub Interface NBAP Signalling".

[6] 3GPP TS 28.655: "Telecommunication management; GSM/EDGE Radio Access Network (GERAN) Network Resource Model (NRM) Integration Reference Point (IRP); Information Service (IS)".

[7] 3GPP TS 32.302: "Telecommunication management; Configuration Management (CM); Notification Integration Reference Point (IRP): Information Service (IS)".

[8] 3GPP TS 28.625: "Telecommunication management; State Management Data Definition Integration Reference Point (IRP): Information Service (IS)".

[9] 3GPP TS 25.331: "Radio Resource Control (RRC) protocol specification".

[10] 3GPP TS 32.662: "Telecommunication management; Configuration Management (CM); Kernel CM Information Service (IS)".

[11] 3GPP TS 32.111-2: "Telecommunication management; Fault Management; Part 2: Alarm Integration Reference Point (IRP): Information Service (IS)".

[12] 3GPP TS 32.422: "Telecommunication management; Subscriber and equipment trace; Trace control and configuration management".

[13] 3GPP TS 32.300: "Telecommunication management; Configuration Management (CM); Name convention for Managed Objects".

[14] 3GPP TS 32.600: "Telecommunication management; Configuration Management (CM); Concept and high-level requirements".

[15] 3GPP TS 23.002: "Network Architecture".

[16] 3GPP TS 28.622: "Telecommunication management; Generic Network Resource Model (NRM) Integration Reference Point (IRP); Information Service (IS)".

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[17] 3GPP TS 28.662: “Telecommunication management; Generic Radio Access Network (RAN) Network Resource Model (NRM) Integration Reference Point (IRP); Information Service (IS)”.

[18] 3GPP TS 25.413: "UTRAN Iu interface RANAP signalling".

[19] 3GPP TS 25.466: "UTRAN Iuant interface: Application Part".

[20] 3GPP TS 28.732: " Telecommunication management; Transport Network (TN) interface Network Resource Model (NRM) Integration Reference Point (IRP); Information Service (IS)".

[21] 3GPP TS 28.702: " Telecommunication management; Core Network (CN) Network Resource Model (NRM) Integration Reference Point (IRP); Information Service (IS) ".

[22] 3GPP TS 32.130: " Telecommunication management; Network sharing; Concepts and requirements".

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3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the following definitions apply. For definitions and not found here, please refer to 3GPP TS 32.101 [1], 3GPP TS 32.102 [2], 3GPP TS 28.622 [16] and 3GPP TS 32.600 [14].

Antenna: Within the present document an Antenna is the set of radiating elements involved in the transmission and reception of Radio Frequency energy to support the Uu interface of a UTRAN cell. See Annex A for more detail.

Association: See definition in TS 28.622 [16].

Managed Element (ME): See definition in TS 28.622 [16].

Managed Object (MO): See definition in TS 28.622 [16].

Management Information Model (MIM): See definition in TS 28.622 [16].

Network Resource Model (NRM): See definition in TS 28.622 [16].

Node B: A logical node responsible for radio transmission/reception in one or more cells to/from the User Equipment. It terminates the Iub interface towards the RNC.

TMA: See TS 25.466 [19].

Tower Mounted Amplifier: See TS 25.466 [19].

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3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

CN	Core Network
DN	Distinguished Name (see 3GPP TS 32.300 [13])
FDD	Frequency Division Duplex
IOC	Information Object Class
IRP	Integration Reference Point
Iub	Interface between RNC and Node B
Mcps	Mega-chips per second
ME	Managed Element
MIM	Management Information Model
MO	Managed Object
NRM	Network Resource Model
PS	Packet Switched
RDN	Relative Distinguished Name (see 3GPP TS 32.300 [13])
RET	Remote control of Electrical Tilting (RET) antenna
RNC	Radio Network Controller
TDD	Time Division Duplex
TMA	Tower Mounted Amplifier
UML	Unified Modelling Language
UTRA	Universal Terrestrial Radio Access
UTRAN	Universal Terrestrial Radio Access Network

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4 Model

4.1 Imported information entities and local labels

Label reference	Local label
3GPP TS 28.622 [16], IOC, ManagedElement	ManagedElement
3GPP TS 28.622 [16], IOC, ManagedFunction	ManagedFunction
3GPP TS 28.622 [16], IOC, MeContext	MeContext
3GPP TS 28.622 [16], IOC, SubNetwork	SubNetwork
3GPP TS 28.622 [16], IOC, Top	Top
3GPP TS 28.622 [16], IOC, VsDataContainer	VsDataContainer
3GPP TS 28.622 [16], IOC, EP_RP	EP_RP
3GPP TS 28.655 [6], IOC, ExternalGSMCell	ExternalGSMCell
3GPP TS 28.655 [6], IOC, GsmCell	GsmCell
3GPP TS 28.655 [6], IOC, GsmRelation	GsmRelation
3GPP TS 28.625 [8], attribute, operationalState	operationalState
3GPP TS 28.662 [17], IOC, AntennaFunction	AntennaFunction
3GPP TS 28.662 [17], IOC, TmaFunction	TmaFunction
3GPP TS 28.662 [17], IOC, SectorEquipmentFunction	SectorEquipmentFunction
3GPP TS 28.662 [17], IOC, *CellReferences*	*CellReferences*
3GPP TS 28.702 [21], IOC, MscServerFunction	MscServerFunction
3GPP TS 28.702 [21], IOC, SGSNFunction	SGSNFunction
3GPP TS 28.732 [20], IOC, TransportNetworkInterface	TransportNetworkInterface
3GPP TS 28.732 [20], IOC, ATMChannelTerminationPoint	ATMChannelTerminationPoint
3GPP TS 28.732 [20], IOC, ATMPathTerminationPoint	ATMPathTerminationPoint

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