

ETSI TS 128 732 V12.0.0 (2014-10)



**Universal Mobile Telecommunications System (UMTS);
LTE;
Telecommunication management;
Transport Network (TN)
interface Network Resource Model (NRM)
Integration Reference Point (IRP);
Information Service (IS)
(3GPP TS 28.732 version 12.0.0 Release 12)**



Reference

RTS/TSGS-0528732vc00

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>

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

<http://portal.etsi.org/tb/status/status.asp>

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

http://portal.etsi.org/chaicor/ETSI_support.asp

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.

© European Telecommunications Standards Institute 2014.

All rights reserved.

DECT™, **PLUGTESTS™**, **UMTS™** and the ETSI logo are Trade Marks of ETSI registered for the benefit of its Members. **3GPP™** and **LTE™** are Trade Marks of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners.

GSM® and the GSM logo are Trade Marks registered and owned by the GSM Association.

Intellectual Property Rights

IPRs essential or potentially essential to the present document 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 (<http://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.

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**", "**may not**", "**need**", "**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
Introduction	4
1 Scope	4
2 References	5
3 Definitions and abbreviations.....	6
3.1 Definitions	6
3.2 Abbreviations	6
4 Model	6
4.1 Imported information entities and local labels	6
4.2 Class diagram	6
4.2.1 Relationships.....	6
4.2.2 Inheritance	7
4.3 Class definitions	8
4.3.1 TransportNetworkInterface.....	8
4.3.1.1 Definition	8
4.3.1.2 Attributes.....	8
4.3.1.3 Attribute constraints	8
4.3.1.4 Notifications.....	8
4.3.2 ATMChannelTerminationPoint	8
4.3.2.1 Definition	8
4.3.2.2 Attributes.....	9
4.3.2.3 Attribute constraints	9
4.3.2.4 Notifications.....	9
4.3.3 ATMPATHTerminationPoint	9
4.3.3.1 Definition	9
4.3.3.2 Attributes.....	9
4.3.3.3 Attribute constraints	10
4.3.3.4 Notifications.....	10
4.4 Attribute definitions	10
4.4.1 Attribute properties	10
4.4.2 Constraints	12
4.5 Common notifications	13
4.5.1 Alarm notifications	13
4.5.2 Configuration notifications	13
Annex A (informative): Example Configuration of ATM Transport Network in UTRAN.....	14
Annex B (informative): Change history	15
History	16

Foreword

This Technical Specification has been produced by the 3rd 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.

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:

28.731	Transport Network (TN) interface Network Resource Model (NRM) Integration Reference Point (IRP); Requirements
28.732	Transport Network (TN) interface Network Resource Model (NRM) Integration Reference Point (IRP); Information Service (IS)
28.733	Transport Network (TN) interface Network Resource Model (NRM) Integration Reference Point (IRP); Solution Set (SS) definitions

1 Scope

The present document specifies the Transport Network (TN) interface Network Resource Model (NRM) that can be communicated between an IRP Agent and an IRP Manager for telecommunication network management purposes, including management of converged networks.

This 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.

The "Transport Network (TN) Interface Network Resource Model (NRM) IRP" comprises a set of specifications defining Requirements, a protocol neutral Network Resource Model (NRM) and corresponding Solution Set(s).

The present document:

- Specifies the protocol neutral Transport Network Interface Resources IRP: Network Resource Model. It reuses relevant parts of the generic NRM in TS 28.622 [6], either by direct reuse or sub-classing, and in addition to that defines Transport specific Managed Object Classes.

The Configuration Management (CM) area is very large. The intention is to split the specification of the related interfaces in several IRPs - as described in the Introduction clause above. An important aspect of such a split is that the Network Resource Models (NRMs) defined in different IRPs containing NRMs are consistent, and that NRMs supported by an IRP Agent implementation can be accessed as one coherent model through one IRP Information Service.

In order to access the information defined by this NRM, an IRP Information Service (IS) is needed, such as the Basic CM IRP: IS (TS 32.602 [7]) or the Bulk CM IRP: IS (TS 32.612 [8]). However, which Information Service that is applicable is outside the scope of this document.

Finally, regarding the support of the State Management IRP: IS (TS 32.672 [3]), all NRM's of one release shall support the same State Management IRP version.

This specification is related to 3GPP TS 32.672.

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 32.672: "Telecommunication management; Configuration Management (CM); State Management Integration Reference Point (IRP); Information Service (IS)".

[4] 3GPP TS 32.300: "Telecommunication management; Configuration Management (CM); Name convention for Managed Objects".

[5] ITU-T Recommendation I.361 (11/95): "B-ISDN ATM Layer Specification".

[6] 3GPP TS 28.622: "Telecommunication management; Generic Network Resource Model (NRM) Integration Reference Point (IRP); Information Service (IS)".

- [7] 3GPP TS 32.602: "Telecommunication management; Configuration Management (CM); Basic CM Integration Reference Point (IRP) Information Service (IS)".
- [8] 3GPP TS 32.612: "Telecommunication management; Configuration Management (CM); Bulk CM Integration Reference Point (IRP): Information Service (IS)".
- [9] 3GPP TS 25.430: "UTRAN Iub interface:general aspects and principles".
- [10] 3GPP TS 25.431: "UTRAN Iub interface Layer 1".
- [11] 3GPP TS 25.411: "UTRAN Iu interface Layer 1".
- [12] 3GPP TS 28.652: "UTRAN Network Resource Model (NRM) Integration Reference Point (IRP): Information Service (IS)".
- [13] 3GPP TS 32.111-2: "Telecommunication management; Fault Management; Part 2: Alarm Integration Reference Point (IRP): Information Service (IS)".
- [14] 3GPP TS 32.302: "Telecommunication management; Configuration Management (CM); Notification Integration Reference Point (IRP): Information Service (IS)".
- [15] 3GPP TS 32.662: "Telecommunication management; Configuration Management (CM); Kernel CM Information Service (IS)".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the following definitions and abbreviations apply. For definitions and abbreviations not found here, please refer to 3GPP TS 32.101 [1], 3GPP TS 32.102 [2], 3GPP TS 32.150 [3] and 3GPP TS 28.622 [6].

Association: See definition in TS 28.622 [6].

Network Resource Model (NRM): See definition in TS 28.622 [6].

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TS 32.101 [1], 3GPP TS 32.102 [2], 3GPP TS 32.150 [3] and the following apply:

DN	Distinguished Name (see 3GPP TS 32.300 [4])
IOC	Information Object Class
IRP	Integration Reference Point
ITU-T	International Telecommunication Union, Telecommunication Sector
Iub	Interface between RNC and Node B
NRM	Network Resource Model
RDN	Relative Distinguished Name (see 3GPP TS 32.300 [4])
RNC	Radio Network Controller
UML	Unified Modelling Language

4 Model

4.1 Imported information entities and local labels

Label reference	Local label
3GPP TS 28.622 [6], IOC, ManagedElement	ManagedElement
3GPP TS 28.652 [12], IOC, IubLink	IubLink
3GPP TS 28.622 [6], IOC, VsDataContainer	VsDataContainer

4.2 Class diagram

4.2.1 Relationships

This clause depicts the set of classes (e.g. IOCs) that encapsulates information relevant for this IRP. This subclause provides the overview of the relationships of relevant classes in UML. Subsequent subclasses provide more detailed specification of various aspects of these classes.

Figure 4.2.1.1 shows the name-containment relation and other types of relations of the Transport Network NRM.

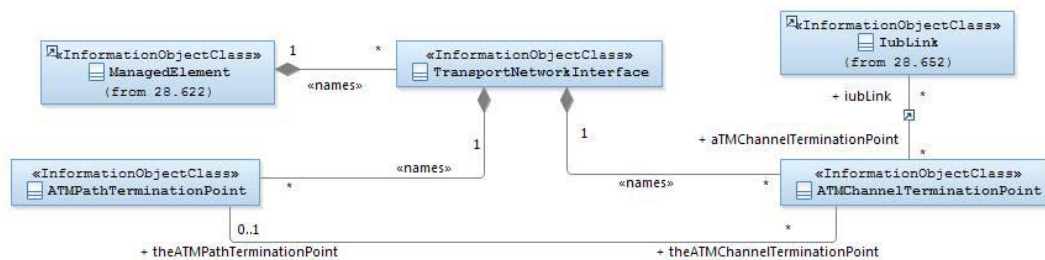
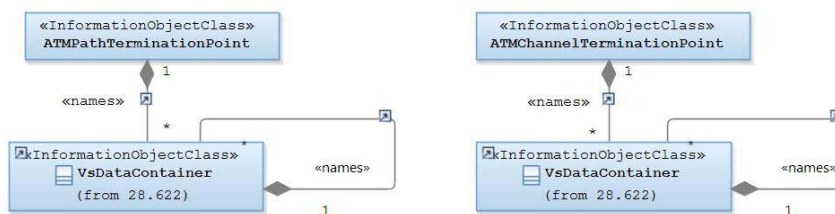


Figure 4.2.1.1: Transport Network NRM Containment/Naming and Association diagram

Each IOC is identified with a Distinguished Name (DN) according to 3GPP TS 32.300 [4] that expresses its containment hierarchy. As an example, the DN of a IOC representing a ATMPPathTerminationPoint could have a format like:

SubNetwork=Sweden,meContext=MEC-Gbg-1,ManagedElement=RNC-Gbg-1, TransportNetworkInterface=ATM-1, ATMPPathTerminationPoint=Gbg-1.



NOTE 1: The listed cardinality numbers represent transient as well as steady-state numbers, and reflect all managed object creation and deletion scenarios.

Figure 4.2.1.2: vsDataContainer in name-containment diagram

4.2.2 Inheritance

This subclause depicts the inheritance relationships that exist between IOCs.

Figure 4.2.2.1 shows the inheritance hierarchy for the Transport Network NRM.

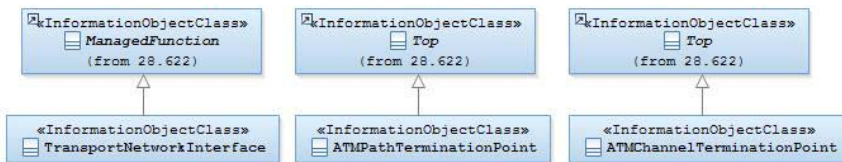


Figure 4.2.2.1: Transport Network NRM Inheritance Hierarchy

4.3 Class definitions

4.3.1 TransportNetworkInterface

4.3.1.1 Definition

This IOC represents the Transport Network Interface technology (e.g. ATM, IP).

4.3.1.2 Attributes

Attribute name	Support Qualifier	isReadable	isWritable	isInvariant	isNotifiable
transportNetworkType	M	M	-	-	M

4.3.1.3 Attribute constraints

None.

4.3.1.4 Notifications

The common notifications defined in subclause 4.5 are valid for this IOC, without exceptions or additions.

4.3.2 ATMChannelTerminationPoint

4.3.2.1 Definition

This IOC represents a bi-directional ATM Virtual Channel Connection Termination Point.

4.3.2.2 Attributes

Attribute name	Support Qualifier	isReadable	isWritable	isInvariant	isNotifiable
usageChannel	M	M	-	-	M
virtualPathId	M	M	O	-	M
virtualChannelId	M	M	O	-	M
physicalPortId	M	M	O	-	M
physicalInterfaceType	M	M	O	-	M
serviceCategoryIn	M	M	O	-	M
ServiceCategoryEg	M	M	O	-	M
usedAAL	M	M	O	-	M
peakCellRateIn	M	M	O	-	M
peakCellRateEg	M	M	O	-	M
sustainableCellRateIn	O	M	O	-	M
sustainableCellRateEg	O	M	O	-	M
maximumBurstSizeIn	M	M	O	-	M
maximumBurstSizeEg	M	M	O	-	M
minimumDesiredCellRateIn	O	M	O	-	M
minimumDesiredCellRateEg	O	M	O	-	M
minimumCellRateIn	O	M	O	-	M
minimumCellRateEg	O	M	O	-	M
Attribute related to role					
theATMPATHTerminationPoint	M	M	-		
theIubLink	M	M	-		

4.3.2.3 Attribute constraints

Name	Definition
virtualPathId, virtualChannelId, physicalPortId, physicalInterfaceType, serviceCategoryIn/Eg, usedAAL, peakCellRateIn/Eg, sustainableCellRateIn/Eg, and maximumBurstSizeIn/Eg O Write qualifier	The Write Qualifier shall be supported if these attributes can be set over ltf-N.
sustainableCellRateIn/Eg, maximumBurstSizeIn/Eg	Only applicable for ServiceCategory values RT-VBR, NRT-VBR.
minimumCellRateIn/Eg	Only applicable for Service Category values ABR, GFR.

4.3.2.4 Notifications

The common notifications defined in subclause 4.5 are valid for this IOC, without exceptions or additions.

4.3.3 ATMPATHTerminationPoint

4.3.3.1 Definition

This IOC represents a bi-directional ATM Virtual Path Connection Termination Point.

4.3.3.2 Attributes

Attribute name	Support Qualifier	isReadable	isWritetable	isInvariant	isNotifiable
virtualPathId	M	M	O	-	M
physicalPortIdList	M	M	O	-	M
peakCellRateIn	M	M	O	-	M
peakCellRateEg	M	M	O		
Attribute related to role					
theATMChannelTerminationPoint	M	M	-	-	M

NOTE: The attribute peakCellRateIn, peakCellRateEg of ATM Path is the maximum Peak Cell Rate of its channels.

4.3.3.3 Attribute constraints

Name	Definition
for attributes virtualPathId, physicalPortIdList, peakCellRateIn, peakCellRateEg O Write qualifier	The Write Qualifier shall be supported if these attributes can be written/set over Itf-N.

4.3.3.4 Notifications

The common notifications defined in subclause 4.5 are valid for this IOC, without exceptions or additions.

4.4 Attribute definitions

4.4.1 Attribute properties

The following table defines the attributes that are present in several IOCs of the present document.

Attribute Name	Documentation and Allowed Values	Properties
transportNetworkType	The type of underlying transport network, i.e. ATM, IP allowedValues: ATM, IP	type: <<enumeration>> multiplicity: 1 isOrdered: N/A isUnique: N/A defaultValue: None isNullable: False
usageChannel	The logical channel using the transport network connection. Ref. 3GPP TS 25.430 [9] allowedValues: examples are "Iub-NBAP", "Iub-ALCAP".	type: String multiplicity: 1 isOrdered: N/A isUnique: N/A defaultValue: None isNullable: True
virtualPathId	The ATM Virtual Path Identifier (VPI). Ref. ITU-T Recommendation I.361[5] allowedValues: N/A	type: Integer multiplicity: 1 isOrdered: N/A isUnique: N/A defaultValue: None isNullable: True
virtualChannelId	The ATM Virtual Channel Identifier (VCI). Ref. ITU-T Recommendation I.361 [5] allowedValues: N/A	type: Integer multiplicity: 1 isOrdered: N/A isUnique: N/A defaultValue: None isNullable: True
physicalPortIdList	The list of identifiers of the ATM physical port containing termination points allowedValues: N/A	type: String multiplicity: 1..* isOrdered: False isUnique: True defaultValue: None isNullable: True
physicalPortid	The identifier of the ATM physical port containing termination points allowedValues: N/A	type: String multiplicity: 1 isOrdered: N/A isUnique: N/A defaultValue: None isNullable: True
physicalInterfaceType	The ATM physical interface type. Ref. 3GPP TS 25.431[10],	type: String multiplicity: 1

Attribute Name	Documentation and Allowed Values	Properties
	3GPP TS 25.411[11] allowedValues: Examples are 'E1', 'STM1'.	isOrdered: N/A isUnique: N/A defaultValue: None isNullable: True
serviceCategoryIn	The ATM Service Category used for the virtual connection Ingress (incoming) traffic. Ref. ITU-T Recommendation I.361[5] allowedValues: CBR, RT-VBR, NRT-VBR, ABR, UBR, GFR	type: <<enumeration>> multiplicity: 1 isOrdered: N/A isUnique: N/A defaultValue: N/A isNullable: True
serviceCategoryEg	The ATM Service Category used for the virtual connection Egress (outgoing) traffic. Ref. ITU-T Recommendation I.361[5] allowedValues: CBR, RT-VBR, NRT-VBR, ABR, UBR, GFR	type: <<enumeration>> multiplicity: 1 isOrdered: N/A isUnique: N/A defaultValue: N/A isNullable: True
usedAAL	The ATM Adaptation Layer (AAL) used for the virtual connection. Ref. ITU-T Recommendation I.361[5] allowedValues: Null, AAL1,.....	type: <<enumeration>> multiplicity: 1 isOrdered: N/A isUnique: N/A defaultValue: N/A isNullable: False
peakCellRateIn	Peak Cell Rate (PCR) in kbits/sec for Ingress traffic. Ref. ITU-T Recommendation I.361 [5] allowedValues: N/A	type: Integer multiplicity: 1 isOrdered: N/A isUnique: N/A defaultValue: None isNullable: False
peakCellRateEg	Peak Cell Rate (PCR) in kbits/sec for Egress traffic. Ref. ITU-T Recommendation I.361 [5] allowedValues: N/A	type: Integer multiplicity: 1 isOrdered: N/A isUnique: N/A defaultValue: None isNullable: False
sustainableCellRateIn	Sustainable Cell Rate (SCR) in kbits/sec for Ingress traffic. Ref. ITU-T Recommendation I.361 [5] allowedValues: 1...n	type: Integer Multiplicity: 1 isOrdered: N/A isUnique: N/A defaultValue: N/A isNullable: False
sustainableCellRateEg	Sustainable Cell Rate (SCR) in kbits/sec for Egress traffic. Ref. ITU-T Recommendation I.361 [5] allowedValues: 1...n	type: Integer Multiplicity: 1 isOrdered: N/A isUnique: N/A defaultValue: N/A isNullable: False
maximumBurstSizeIn	Maximum Burst Size (MBS) for VBR Service Categories for Ingress traffic. Ref. ITU-T Recommendation I.361 [5] allowedValues: 1...n	type: Integer multiplicity: 1 isOrdered: N/A isUnique: N/A defaultValue: N/A isNullable: False
maximumBurstSizeEg	Maximum Burst Size (MBS) for VBR Service Categories for Egress traffic. Ref. ITU-T Recommendation I.361 [5]	type: Integer multiplicity: 1 isOrdered: N/A isUnique: N/A defaultValue: N/A

Attribute Name	Documentation and Allowed Values	Properties
	allowedValues: 1..n	isNullable: True
minimumCellRateIn	Minimum Cell Rate (MCR) in kbits/sec for ABR, GFR Service Categories for Ingress traffic. Ref. ITU-T Recommendation I.361 [5] allowedValues: 1..n	type: Integer multiplicity: 1 isOrdered: N/A isUnique: N/A defaultValue: N/A isNullable: True
minimumCellRateEg	Minimum Cell Rate (MCR) in kbits/sec for ABR, GFR Service Categories for Egress traffic. Ref. ITU-T Recommendation I.361 [5]	type: Integer multiplicity: 1 isOrdered: N/A isUnique: N/A defaultValue: N/A allowedValues: 1..n isNullable: True
minimumDesiredCellRateIn	Minimum Desired Cell Rate (MDCR) in kbits/sec for UBR Service Category for Ingress traffic. Ref. ITU-T Recommendation I.361 [5] allowedValues: 1..n	type: Integer multiplicity: 1 isOrdered: N/A isUnique: N/A defaultValue: N/A isNullable: True
minimumDesiredCellRateEg	Minimum Desired Cell Rate (MDCR) in kbits/sec for UBR Service Category for Egress traffic. Ref. ITU-T Recommendation I.361 [5] allowedValues: 1..n	type: Integer multiplicity: 1 isOrdered: N/A isUnique: N/A defaultValue: N/A isNullable: True
Role-Attribute Name		
theATMChannelTerminationPoint	It carries zero or more DNs of ATMChannelTerminationPoint. allowedValues: N/A	type: DN multiplicity: 1 isOrdered: N/A isUnique: N/A defaultValue: None isNullable: True
theATMPATHTerminationPoint	It carries zero or one DN of ATMPATHTerminationPoint. allowedValues: N/A	type: DN multiplicity: 1 isOrdered: N/A isUnique: N/A defaultValue: None isNullable: True
theIubLink	It carries zero or more DNs of IubLink. allowedValues: N/A	type: DN multiplicity: 1..* isOrdered: N/A isUnique: N/A defaultValue: None isNullable: True

4.4.2 Constraints

None.

4.5 Common notifications

4.5.1 Alarm notifications

This subclause presents a list of notifications, defined in [13], that IRPManager can receive. The notification header attribute `objectClass/objectInstance`, defined in [14], would capture the DN of an instance of an IOC defined in this IRP specification.

Name	Qualifier	Notes
<code>notifyAckStateChanged</code>	See Alarm IRP (3GPP TS 32.111-2 [13])	
<code>notifyChangedAlarm</code>	See Alarm IRP (3GPP TS 32.111-2 [13])	
<code>notifyClearedAlarm</code>	See Alarm IRP (3GPP TS 32.111-2 [13])	
<code>notifyNewAlarm</code>	See Alarm IRP (3GPP TS 32.111-2 [13])	
<code>notifyComments</code>	See Alarm IRP (3GPP TS 32.111-2 [13])	
<code>notifyAlarmListRebuilt</code>	See Alarm IRP (3GPP TS 32.111-2 [13])	
<code>notifyPotentialFaultyAlarmList</code>	See Alarm IRP (3GPP TS 32.111-2 [13])	

4.5.2 Configuration notifications

This subclause presents a list of notifications, defined in [15], that IRPManager can receive. The notification header attribute `objectClass/objectInstance`, defined in [14], would capture the DN of an instance of an IOC defined in this IRP specification.

Name	Qualifier	Notes
<code>notifyAttributeValueChange</code>	O	
<code>notifyObjectCreation</code>	O	
<code>notifyObjectDeletion</code>	O	

Annex A (informative): Example Configuration of ATM Transport Network in UTRAN

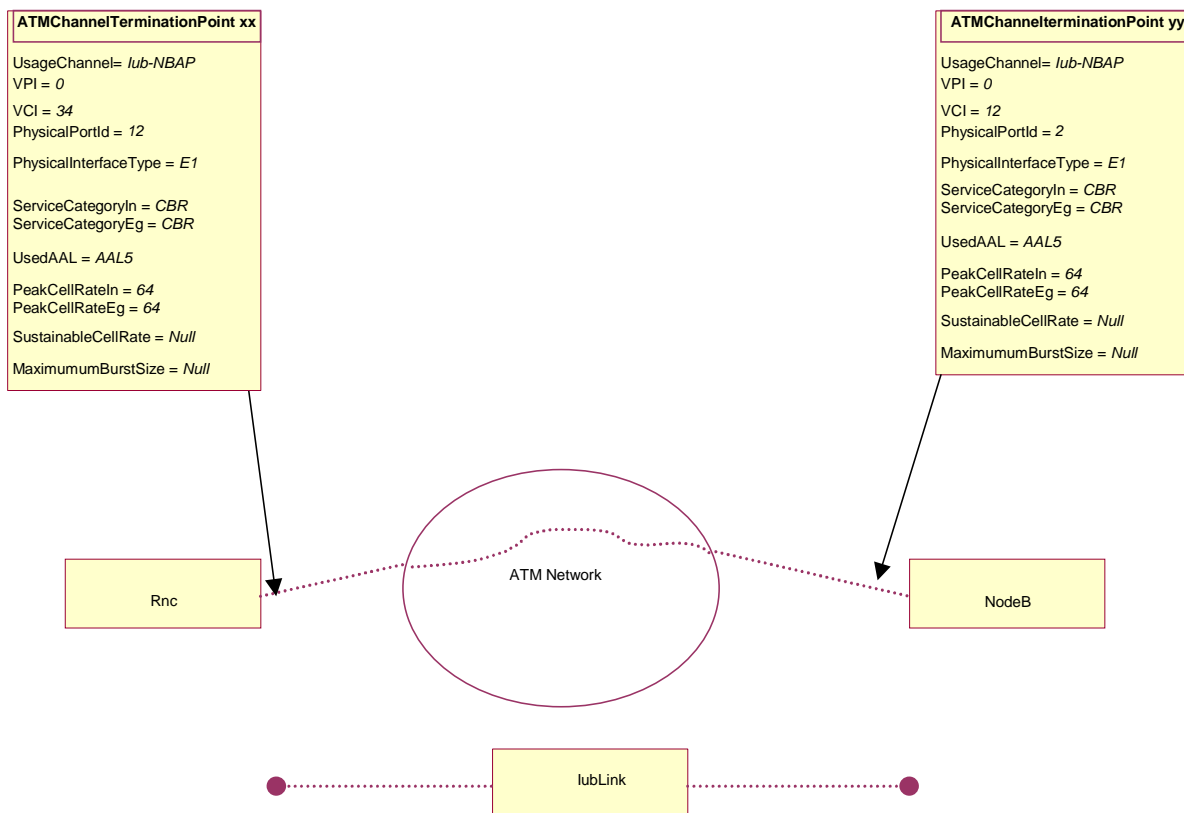


Figure A.1: Virtual connection of a logical lub interface channel over ATM network

Annex B (informative): Change history

Change history								
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Cat	Old	New
2013-09	SA#61	SP-130433	001	1	Removal of wrong and redundant modelling statements	F	11.0.0	11.1.0
2014-06	SA#64	SP-140358	002	-	remove the feature support statements	F	11.1.0	11.2.0
2014-10	-	-	-	-	-	Update to Rel-12 version (MCC)	11.2.0	12.0.0

History

Document history		
V12.0.0	October 2014	Publication