ETSI TS 132 714 V6.0.0 (2004-12)

Technical Specification

Universal Mobile Telecommunications System (UMTS);

Telecommunication management;

Configuration Management (CM);

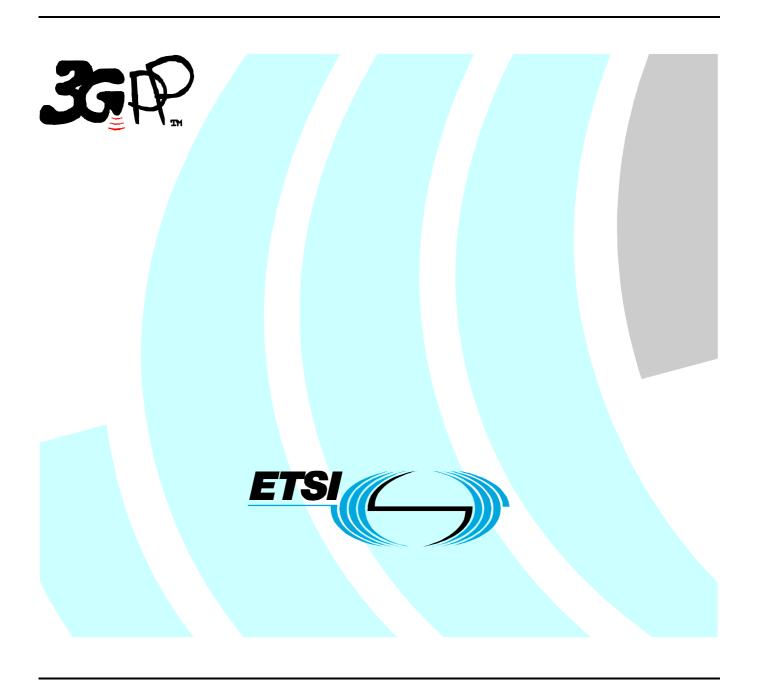
Transport Network (TN) Network Resource Model (NRM)

Integration Reference Point (IRP):

Common Management Information Protocol (CMIP)

Solution Set (SS)

(3GPP TS 32.714 version 6.0.0 Release 6)



Reference
DTS/TSGS-0532714v600

Keywords
UMTS

ETSI

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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

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Contents

Intelle	ectual Property Rights	2
Forew	vord	2
Forew	vord	5
Introd	luction	5
1	Scope	
2	References	
3	Definitions and abbreviations	
3.1	Definitions	
3.2	Abbreviations	6
4	Architectural features	7
4.1	Notifications	7
5	Mapping	7
5.1	Transport NRM Information Object Class (IOC) mapping	
5.2	Mapping of IOC Attributes	
5.2.1	General	
5.2.2	IOC TransportNetworkInterface	
5.2.3	IOC ATMChannelTerminationPoint	
5.2.4	IOC ATMPathTerminationPoint	
6	GDMO Definitions	
6.1	Managed Object Classes	
6.1.	1 dansport (very origination)	
6.1.2		
6.1.3		
6.2 6.2.	Packages	
6.2.1		
6.2.3		
6.2.4		
6.2.5	ι	
6.2.0		
6.2.		
6.2.8		
6.2.9	· · · · · · · · · · · · · · · · · · ·	
6.3	Attributes	
6.3.		
6.3.2		
6.3.3	3 transportNetworkType	15
6.3.4		16
6.3.5		16
6.3.0		
6.3.		
6.3.8	1 2	
6.3.9	1 7 71	
6.3.		
6.3.		
6.3.		
6.3.		
6.3.	1	
6.3.1 6.3.1		
6.3.1		
U.J.	1 / BUBURINGO CONTRUCES	

6.3.18 maxir	numBurstSizeIn	22
6.3.19 maxir	numBurstSizeEg	22
	numDesiredCellRateIn	
6.3.21 minin	numDesiredCellRateEg	23
	numCellRateIn	
6.3.23 minin	numCellRateEg	24
	ChannelTerminationPoint-aTMPathTerminationPoint	
6.3.25 aTMC	ChannelTerminationPoint-iubLink	25
	PathTerminationPointId	
6.3.27 physic	calPortIdList	25
	PathTerminationPoint-aTMChannelTerminationPoint	
6.4 Name-Bi	nding	26
6.4.1 transp	ortNetworkInterface-managedElement	26
6.4.2 aTMF	PathTerminationPoint-transportNetworkInterface	27
	ChannelTerminationPoint-transportNetworkInterface	
7 ASN.1 defi	nitions for the Transport Network NRM	29
Annex A (inform	ative): List of assigned Object Identifiers	33
Annex B (inform	ative): Change history	35
History		36

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- z the

third digit is incremented when editorial only changes have been incorporated in the document.

Introduction

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

TS 32.711	"Transport Network (TN) Network Resource Model (NRM) Integration Reference Point (IRP): Requirements ";
TS 32.712	'Transport Network (TN) Network Resource Model (NRM) Integration Reference Point (IRP): Information Service (IS)";
TS 32.713	"Transport Network (TN) Network Resource Model (NRM) Integration Reference Point (IRP): Common Object Request Broker Architecture (CORBA) Solution Set (SS)";
TS 32.714	'Transport Network (TN) Network Resource Model (NRM) Integration Reference Point (IRP): Common Management Information Protocol (CMIP) Solution Set (SS)''.
TS 32.715	'Transport Network (TN) Network Resource Model (NRM) Integration Reference Point (IRP): Bulk CM eXtensible Markup Language (XML) file format definition

The present document is part of a TS-family which describe the requirements and information model necessary for the Telecommunication Management (TM) of 3G systems. The TM principles and TM architecture are specified in 3GPP TS 32.101 [1] and 3GPP TS 32.102 [2].

1 Scope

The purpose of this Transport Network (TN) interface Network Resource Model IRP: CMIP Solution Set is to define the mapping of the IRP information model (see 3GPP TS 32.712 [4]) to the protocol specific details necessary for implementation of this IRP in a Q3 environment.

This Solution Set specification is related to 3GPP TS 32.712 V6.0.X

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 32.600: "Telecommunication management; Configuration Management (CM); Concept and high-level requirements".
- [4] 3GPP TS 32.712: "Telecommunication management; Configuration Management (CM); Transport Network (TN) interface Network Resource Model (NRM) Integration Reference Point (IRP): Information Service (IS)".
- [5] 3GPP TS 32.300: "Telecommunication management; Configuration Management (CM); Name convention for Managed Objects".
- [6] 3GPP TS 32.304: "Telecommunication management; Configuration Management (CM); Notification Integration Reference Point (IRP): Common Management Information Protocol Solution Set (SS)".

3 Definitions and abbreviations

3.1 Definitions

For terms and definitions please refer to 3GPP TS 32.101 [1], 3GPP TS 32.102 [2], 3GPP TS 32.600 [3] and 3GPP TS 32.712 [4].

3.2 Abbreviations

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

ASN.1 Abstarct Syntax Notation 1

CMIP Common Management Information Protocol

DN Distinguished Name

GDMO Guidelines for the Definition of Managed Objects

IS Information Service

IOC	Information Object Class
IRP	Integration Reference Point
MO	Managed Object

MOC Managed Object Class
NRM Network Resource Model

SS Solution Set

4 Architectural features

The overall architectural feature of Transport Network Resources IRP is specified in 3GPP TS 32.712 [4]. This clause specifies features that are specific to the CMIP SS.

4.1 Notifications

Notifications are sent according to the Notification IRP: CMIP SS (see 3GPP TS 32.304 [6]).

5 Mapping

5.1 Transport NRM Information Object Class (IOC) mapping

For the Transport Network NRM CMIP Solution Set the Information Object Classes (IOC) and the Interfaces defined in 3GPP TS 32.712 [7] are mapped onto Managed Object Classes (MOC) as given in Table 1. These MOC include all the Attributes, Actions and Notifications necessary to model performance management as described in 3GPP TS 32.712 [7].

Table 5.1: Mapping of Information Object Classes

IS IOC	CMIP SS MOC
TransportNetworkInterface	transportNetworkInterface
ATMChannelTerminationPoint	aTMChannelTerminationPoint
ATMPathTerminationPoint	aTMPathTerminationPoint

5.2 Mapping of IOC Attributes

5.2.1 General

The IS parameter name 'managedObjectInstance' is mapped into DN.

Attributes modelling associations as defined in the NRM (here also called 'reference attributes') are mapped onto attributes in this SS. The names of the reference attributes in the NRM are mapped to the corresponding attribute names in the MOC. When the cardinality for an association is 0..1 or 1..1 the datatype for the reference attribute is defined as an MOReference. The value of an MOReference contains the distinguished name of the associated MO. When the cardinality for an association allows more than one referred MO, the reference attribute will be of type MOReferenceSet, which contains a sequence of MOReferences.

5.2.2 IOC TransportNetworkInterface

Table 5.2: Attribute Mapping of the IOC TransportNetworkInterface

IS Attribute	CMIP SS Attributes	Support Qualifier	Read Qualifier	Write Qualifier
transportNetworkInterfaceId	transportNetworkInterfaceId	М	М	-
userLabel	userLabel	М	М	M
transportNetworkType	transportNetworkType	М	М	-

5.2.3 IOC ATMChannelTerminationPoint

Table 5.3: Attribute Mapping of IOC ATMChannelTerminationPoint

IS Attribute	CMIP SS Attributes	Support Qualifier	Read Qualifier	Write Qualifier
aTMChannelTerminationPointId	aTMChannelTerminationPointId	М	М	
usageChannel	usageChannel	М	М	
virtualPathId	virtualPathId	М	М	0
virtualChannelId	virtualChannelld	М	М	0
physicalPortId	physicalPortId	М	М	0
physicalLinkType	physicalLinkType	М	М	0
serviceCategoryIn	serviceCategoryIn	М	М	0
serviceCategoryEg	serviceCategoryEg	М	М	0
usedAAL	usedAAL	М	M	0
peakCellRateIn	peakCellRateIn	М	М	0
peakCellRateEg	peakCellRateEg	M	M	0
sustainableCellRateIn	sustainableCellRateIn	0	M	0
sustainableCellRateEg	sustainableCellRateEg	0	M	0
maximumBurstSizeIn	maximumBurstSizeIn	M	M	0
maximumBurstSizeEg	maximumBurstSizeEg	M	M	0
minimumDesiredCellRateIn	minimumDesiredCellRateIn	0	M	0
minimumDesiredCellRateEg	minimumDesiredCellRateEg	0	M	0
minimumCellRateIn	minimumCellRateIn	0	M	0
minimumCellRateEg	minimumCellRateEg	0	M	0
aTMChannelTerminationPoint- ATMPathTerminationPoint	aTMChannelTerminationPoint- aTMPathTerminationPoint	М	М	
aTMChannelTerminationPoint- lubLink	aTMChannelTerminationPoint- iubLink	М	М	

5.2.4 IOC ATMPathTerminationPoint

Table 5.4: Attribute Mapping of NRM IOC ATMPathTerminationPoint

IS Attribute	CMIP SS Attributes	Support Qualifier	Read Qualifier	Write Qualifier	
aTMPathTerminationPointId	aTMPathTerminationPointId	М	М		
virtualPathId	virtualPathId	М	М	0	
physicalPortIdList	physicalPortIdList	М	М	0	
peakCellRateIn	peakCellRateIn	М	М	0	
peakCellRateEg	peakCellRateEg	М	М	0	
aTMPathTerminationPoint- ATMChannelTerminationPoint	aTMPathTerminationPoint- aTMChannelTerminationPoint	М	М		

-- 6 GDMO Definitions

- --Please do not remove the '--' in front of the headline numbering, as it is the CMIP code
- --for a comment. This way the whole chapter can be put directly into a compiler.

-- 6.1 Managed Object Classes

-- 6.1.1 transportNetworkInterface

transportNetworkInterface MANAGED OBJECT CLASS

DERIVED FROM

"3GPP TS32.622": managedFunction;

CHARACTERIZED BY

transportNetworkInterfaceMandatoryAttributesPackage;

REGISTERED AS {ts32-714ObjectClass 10600};

-- 6.1.2 aTMChannelTerminationPoint

aTMChannelTerminationPoint MANAGED OBJECT CLASS

DERIVED FROM

"3GPP TS32.622": top;

CHARACTERIZED BY

aTMChannelTerminationPointMandatoryAttributesPackage;

CONDITIONAL PACKAGES

a TM Channel Termination Point Optional Attributes Package 1

PRESENT IF

"an instance supports it",

a TM Channel Termination Point Optional Attributes Package 2

PRESENT IF

"an instance supports it",

a TM Channel Termination Point Optional Attributes Package 3

PRESENT IF

"an instance supports it",

a TM Channel Termination Point Optional Attributes Package 4

PRESENT IF

"an instance supports it",

a TM Channel Termination Point Optional Attributes Package 5

PRESENT IF

"an instance supports it",

a TM Channel Termination Point Optional Attributes Package 6

PRESENT IF

"an instance supports it";

REGISTERED AS {ts32-714ObjectClass 20600};

-- 6.1.3 aTMPathTerminationPoint

aTMPathTerminationPoint MANAGED OBJECT CLASS

DERIVED FROM

"3GPP TS32.622": top;

CHARACTERIZED BY

aTMPathTerminationPointMandatoryAttributesPackage;

REGISTERED AS {ts32-714ObjectClass 30600};

-- 6.2 Packages

-- 6.2.1 transportNetworkInterfaceMandatoryAttributesPackage

transportNetworkInterfaceMandatoryAttributesPackage~PACKAGE

BEHAVIOUR

transportNetworkInterfaceMandatoryAttributesPackageBehaviour;

ATTRIBUTES

transportNetworkInterfaceId GET,

userLabel GET-REPLACE,

transportNetworkType GET;

REGISTERED AS {ts32-714Package 10600};

transportInterfaceMandatoryAttributesPackageBehaviour BEHAVIOUR

DEFINED AS

"The attributes in this package are described in 3GPP TS32.712 [4]. ";

-- 6.2.2 aTMChannelTerminationPointMandatoryAttributesPackage

 $a TM Channel Termination Point Mandatory Attributes Package\ \textbf{PACKAGE}$

BEHAVIOUR

a TM Channel Termination Point Mandatory Attributes Package Behaviour;

ATTRIBUTES

a TM Channel Termination Point Id	GET,	
usageChannel	GET,	
virtualPathId	GET,	
virtualChannelId	GET,	
physicalPortId	GET,	
physicalInterfaceType	GET,	
serviceCategoryIn	GET,	
serviceCategoryEg	GET,	
usedAAL	GET,	
peakCellRateIn	GET,	
peakCellRateEg	GET,	
maximumBurstSizeIn	GET,	
maximumBurstSizeEg	GET,	
aTMChannelTerminationPoint-aTMP	athTerminationPoint	GET,
aTMChannelTerminationPoint-iubLin	nk GET;	

REGISTERED AS {ts32-714Package 20600};

 $a TM Channel Termination Point Mandatory Attributes Package Behaviour \ \textbf{BEHAVIOUR}$

DEFINED AS

"The attributes in this package are described in 3GPP TS32.712 [4].

a TM Channel Termination Point Id, usage Channel, a TM Channel Termination Point-a TMP at h Termination Point, and the state of the property of the property

aTMChannelTerminationPoint-iubLink are striktly read-only, all the others are read-write if an

instance of the managed object supports read-write.";

-- 6.2.3 aTMChannelTerminationPointOptionalAttributesPackage1

aTMChannelTerminationPointOptionalAttributesPackage1 PACKAGE

BEHAVIOUR

a TM Channel Termination Point Optional Attributes Package 1 Behaviour;

ATTRIBUTES

sustainableCellRateIn

REGISTERED AS {ts32-714Package 30600};

aTMChannelTerminationPointOptionalAttributesPackage1Behaviour BEHAVIOUR

DEFINED AS

"The attributes in this package are described in 3GPP TS32.712 [4].

GET:

The attributes are are read-only, unless an instance of the managed object supports read-write.";

-- 6.2.4 aTMChannelTerminationPointOptionalAttributesPackage2

 $a TM Channel Termination Point Optional Attributes Package 2\ \textbf{PACKAGE}$

BEHAVIOUR

a TM Channel Termination Point Optional Attributes Package 2 Behaviour;

ATTRIBUTES

sustainableCellRateEg

GET;

REGISTERED AS {ts32-714Package 40600};

 $a TM Channel Termination Point Optional Attributes Package 2 Behaviour \ \textbf{BEHAVIOUR}$

DEFINED AS

"The attributes in this package are described in 3GPP TS32.712 [4].

The attributes are are read-only, unless an instance of the managed object supports read-write.";

-- 6.2.5 aTMChannelTerminationPointOptionalAttributesPackage3

aTMChannelTerminationPointOptionalAttributesPackage3 PACKAGE

BEHAVIOUR

aTMChannelTerminationPointOptionalAttributesPackage3Behaviour;

ATTRIBUTES

minimumDesiredCellRateIn GET;

REGISTERED AS {ts32-714Package 50600};

 $a TM Channel Termination Point Optional Attributes Package 3 Behaviour \ \textbf{BEHAVIOUR}$

DEFINED AS

"The attributes in this package are described in 3GPP TS32.712 [4].

The attributes are are read-only, unless an instance of the managed object supports read-write.";

-- 6.2.6 aTMChannelTerminationPointOptionalAttributesPackage4

 $a TM Channel Termination Point Optional Attributes Package 4\ \textbf{PACKAGE}$

BEHAVIOUR

aTMChannelTerminationPointOptionalAttributesPackage4Behaviour;

ATTRIBUTES

minimumDesiredCellRateEg GET;

REGISTERED AS {ts32-714Package 60600};

aTMChannelTerminationPointOptionalAttributesPackageBehaviour BEHAVIOUR

DEFINED AS

"The attributes in this package are described in 3GPP TS32.712 [4].

The attributes are are read-only, unless an instance of the managed object supports read-write.";

-- 6.2.7 aTMChannelTerminationPointOptionalAttributesPackage5

 $a TM Channel Termination Point Optional Attributes Package 5\ \textbf{PACKAGE}$

BEHAVIOUR

a TM Channel Termination Point Optional Attributes Package 5 Behaviour;

ATTRIBUTES

minimumCellRateIn GET;

REGISTERED AS {ts32-714Package 70600};

 $a TM Channel Termination Point Optional Attributes Package 5 Behaviour \ \textbf{BEHAVIOUR}$

DEFINED AS

"The attributes in this package are described in 3GPP TS32.712 [4].

The attributes are are read-only, unless an instance of the managed object supports read-write.";

-- 6.2.8 aTMChannelTerminationPointOptionalAttributesPackage6

 $a TM Channel Termination Point Optional Attributes Package 6\ \textbf{PACKAGE}$

BEHAVIOUR

a TM Channel Termination Point Optional Attributes Package 6 Behaviour;

ATTRIBUTES

minimumCellRateEg GET;

REGISTERED AS {ts32-714Package 80600};

aTMChannelTerminationPointOptionalAttributesPackage6Behaviour BEHAVIOUR

DEFINED AS

"The attributes in this package are described in 3GPP TS32.712 [4].

The attributes are are read-only, unless an instance of the managed object supports

read-write.";

-- 6.2.9 aTMPathTerminationPointMandatoryAttributesPackage

BEHAVIOUR

aTMPathTerminationPointMandatoryAttributesPackageBehaviour;

ATTRIBUTES

aTMPathTerminationPointId GET.

virtualPathId GET,

physicalPortIdList GET,

peakCellRateIn GET,

peakCellRateEg GET,

aTMPathTerminationPoint-aTMChannelTerminationPoint GET;

REGISTERED AS {ts32-714Package 90600};

 $a TMP ath Termination Point Mandatory Attributes Package Behaviour \ \textbf{BEHAVIOUR}$

DEFINED AS

"The attributes in this package are described in 3GPP TS32.712 [4].

a TMP ath Termination Point Id, a TMP ath Termination Point-a TMC hannel Termination Point are striktly read-attention and the property of t

only, all the others are read-write, if an instance of the managed object supports read-write.";

-- 6.3 Attributes

-- 6.3.1 transportNetworkInterfaceId

transportNetworkInterfaceId ATTRIBUTE

WITH ATTRIBUTE SYNTAX

TS32-714TypeModule.GeneralObjectId;

MATCHES FOR

EQUALITY;

BEHAVIOUR

transportNetworkInterfaceIdBehaviour;

REGISTERED AS {ts32-714Attribute 10600};

transportNetworkInterfaceIdBehaviour BEHAVIOUR

DEFINED AS

"This attribute is described in 3GPP TS32.712 [4].";

-- 6.3.2 userLabel

userLabel ATTRIBUTE

WITH ATTRIBUTE SYNTAX

TS32-714TypeModule.UserLabel;

MATCHES FOR

EQUALITY;

BEHAVIOUR

userLabelBehaviour;

 $\textbf{REGISTERED AS} \ \{ts 32\text{-}714 Attribute \ 20600\};$

userLabelBehaviour BEHAVIOUR

DEFINED AS

"This attribute is described in 3GPP TS32.712 [4].";

-- 6.3.3 transportNetworkType

transportNetworkType ATTRIBUTE

WITH ATTRIBUTE SYNTAX

TS32-714TypeModule.TransportNetworkType;

MATCHES FOR

EQUALITY;

BEHAVIOUR

transportNetworkTypeBehaviour;

REGISTERED AS {ts32-714Attribute 30600};

transportNetworkTypeBehaviour BEHAVIOUR

DEFINED AS

"This attribute is described in 3GPP TS32.712 [4].";

-- 6.3.4 aTMChannelTerminationPointId

aTMChannelTerminationPointId ATTRIBUTE

WITH ATTRIBUTE SYNTAX

TS32-714TypeModule.GeneralObjectId;

MATCHES FOR

EQUALITY;

BEHAVIOUR

aTMChannelTerminationPointIdBehaviour;

REGISTERED AS {ts32-714Attribute 40600};

aTMChannelTerminationPointIdBehaviour BEHAVIOUR

DEFINED AS

"This attribute is described in 3GPP TS32.712 [4].";

-- 6.3.5 usageChannel

usageChannel ATTRIBUTE

WITH ATTRIBUTE SYNTAX

TS32-714TypeModule.UsageChannel;

MATCHES FOR

EQUALITY;

BEHAVIOUR

usageChannelBehaviour;

REGISTERED AS {ts32-714Attribute 50600};

usageChannelBehaviour BEHAVIOUR

DEFINED AS

"This attribute is described in 3GPP TS32.712 [4].";

-- 6.3.6 virtualPathId

virtualPathId ATTRIBUTE

WITH ATTRIBUTE SYNTAX

TS32-714TypeModule.VirtualPathId;

MATCHES FOR

EQUALITY;

BEHAVIOUR

virtualPathIdBehaviour;

REGISTERED AS {ts32-714Attribute 60600};

virtualPathIdBehaviour BEHAVIOUR

DEFINED AS

"This attribute is described in 3GPP TS32.712 [4].";

-- 6.3.7 virtualChannelld

virtualChannelId ATTRIBUTE

WITH ATTRIBUTE SYNTAX

TS32-714TypeModule.VirtualChannelId;

MATCHES FOR

EQUALITY;

BEHAVIOUR

virtualChannelIdBehaviour;

REGISTERED AS {ts32-714Attribute 70600};

virtualChannelIdBehaviour BEHAVIOUR

DEFINED AS

"This attribute is described in 3GPP TS32.712 [4].";

-- 6.3.8 physicalPortId

physicalPortId ATTRIBUTE

WITH ATTRIBUTE SYNTAX

TS32-714TypeModule.PhysicalPortId;

MATCHES FOR

EQUALITY;

BEHAVIOUR

physicalPortIdBehaviour;

REGISTERED AS {ts32-714Attribute 80600};

physicalPortIdBehaviour BEHAVIOUR

DEFINED AS

"This attribute is described in 3GPP TS32.712 [4].";

-- 6.3.9 physicalLinkType

physicalLinkType ATTRIBUTE

WITH ATTRIBUTE SYNTAX

TS32-714TypeModule.PhysicalLinkType;

MATCHES FOR

EQUALITY;

BEHAVIOUR

physicalLinkTypeBehaviour;

REGISTERED AS {ts32-714Attribute 90600};

 $physical Link Type Behaviour \ \textbf{BEHAVIOUR}$

DEFINED AS

"This attribute is described in 3GPP TS32.712 [4].";

-- 6.3.10 physicalInterfaceType

physicalInterfaceType ATTRIBUTE

WITH ATTRIBUTE SYNTAX

TS32-714TypeModule.PhysicalInterfaceType;

MATCHES FOR

EQUALITY;

BEHAVIOUR

physicalInterfaceTypeBehaviour;

REGISTERED AS {ts32-714Attribute 100600};

physicalLInterfaceTypeBehaviour BEHAVIOUR

DEFINED AS

"This attribute is described in 3GPP TS32.712 [4].";

-- 6.3.11 serviceCategoryIn

serviceCategoryIn ATTRIBUTE

WITH ATTRIBUTE SYNTAX

TS32-714TypeModule.ServiceCategoryIn;

MATCHES FOR

EQUALITY;

BEHAVIOUR

serviceCategoryInBehaviour;

REGISTERED AS {ts32-714Attribute 110600};

serviceCategoryInBehaviour BEHAVIOUR

DEFINED AS

"This attribute is described in 3GPP TS32.712 [4].";

-- 6.3.12 serviceCategoryEg

serviceCategoryEg ATTRIBUTE

WITH ATTRIBUTE SYNTAX

TS32-714TypeModule.ServiceCategoryEg;

MATCHES FOR

EQUALITY;

BEHAVIOUR

serviceCategoryEgBehaviour;

REGISTERED AS {ts32-714Attribute 120600};

serviceCategoryEgBehaviour BEHAVIOUR

DEFINED AS

"This attribute is described in 3GPP TS32.712 [4].";

-- 6.3.13 usedAAL

usedAAL ATTRIBUTE

WITH ATTRIBUTE SYNTAX

TS32-714TypeModule.UsedAAL;

MATCHES FOR

EQUALITY;

BEHAVIOUR

usedAALBehaviour;

REGISTERED AS {ts32-714Attribute 130600};

usedAALBehaviour BEHAVIOUR

DEFINED AS

"This attribute is described in 3GPP TS32.712 [4].";

-- 6.3.14 peakCellRateIn

peakCellRateIn ATTRIBUTE

WITH ATTRIBUTE SYNTAX

TS32-714TypeModule.PeakCellRateIn;

MATCHES FOR

EQUALITY;

BEHAVIOUR

peakCellRateInBehaviour;

REGISTERED AS {ts32-714Attribute 140600};

peakCellRateInBehaviour BEHAVIOUR

DEFINED AS

"This attribute is described in 3GPP TS32.712 [4].";

-- 6.3.15 peakCellRateEg

peakCellRateEg ATTRIBUTE

WITH ATTRIBUTE SYNTAX

TS32-714TypeModule.PeakCellRateEg;

MATCHES FOR

EQUALITY;

BEHAVIOUR

peakCellRateEgBehaviour;

REGISTERED AS {ts32-714Attribute 150600};

peakCellRateEgBehaviour BEHAVIOUR

DEFINED AS

"This attribute is described in 3GPP TS32.712 [4].";

-- 6.3.16 sustainableCellRateIn

sustainableCellRateIn ATTRIBUTE

WITH ATTRIBUTE SYNTAX

TS32-714TypeModule.SustainableCellRateIn;

MATCHES FOR

EQUALITY;

BEHAVIOUR

sustainableCellRateInBehaviour;

REGISTERED AS {ts32-714Attribute 160600};

sustainableCellRateInBehaviour BEHAVIOUR

DEFINED AS

"This attribute is described in 3GPP TS32.712 [4].";

-- 6.3.17 sustainableCellRateEg

sustainableCellRateEg ATTRIBUTE

WITH ATTRIBUTE SYNTAX

TS32-714 Type Module. Sustainable Cell Rate Eg;

MATCHES FOR

EQUALITY;

BEHAVIOUR

sustainableCellRateEgBehaviour;

REGISTERED AS {ts32-714Attribute 170600};

sustainableCellRateEgBehaviour BEHAVIOUR

DEFINED AS

"This attribute is described in 3GPP TS32.712 [4].";

-- 6.3.18 maximumBurstSizeIn

maximumBurstSizeIn ATTRIBUTE

WITH ATTRIBUTE SYNTAX

TS32-714TypeModule.MaximumBurstSizeIn;

MATCHES FOR

EQUALITY;

BEHAVIOUR

maximumBurstSizeInBehaviour;

REGISTERED AS {ts32-714Attribute 1870600};

maximumBurstSizeInBehaviour BEHAVIOUR

DEFINED AS

"This attribute is described in 3GPP TS32.712 [4].";

-- 6.3.19 maximumBurstSizeEg

maximumBurstSizeEg ATTRIBUTE

WITH ATTRIBUTE SYNTAX

TS32-714 Type Module. Maximum Burst Size Eg;

MATCHES FOR

EQUALITY;

BEHAVIOUR

maximumBurstSizeEgBehaviour;

REGISTERED AS {ts32-714Attribute 190600};

maximumBurstSizeEgBehaviour BEHAVIOUR

DEFINED AS

"This attribute is described in 3GPP TS32.712 [4].";

-- 6.3.20 minimumDesiredCellRateIn

minimumDesiredCellRateIn ATTRIBUTE

WITH ATTRIBUTE SYNTAX

TS32-714TypeModule.MinimumDesiredCellRateIn;

MATCHES FOR

EQUALITY;

BEHAVIOUR

minimumDesiredCellRateInBehaviour;

REGISTERED AS {ts32-714Attribute 200600};

minimumDesiredCellRateInBehaviour BEHAVIOUR

DEFINED AS

"This attribute is described in 3GPP TS32.712 [4].";

-- 6.3.21 minimumDesiredCellRateEg

minimumDesiredCellRateEg ATTRIBUTE

WITH ATTRIBUTE SYNTAX

TS32-714TypeModule.MinimumDesiredCellRateEg;

MATCHES FOR

EQUALITY;

BEHAVIOUR

minimumDesiredCellRateEgBehaviour;

REGISTERED AS {ts32-714Attribute 210600};

 $minimum Desired Cell Rate Eg Behaviour \ \textbf{BEHAVIOUR}$

DEFINED AS

"This attribute is described in 3GPP TS32.712 [4].";

-- 6.3.22 minimumCellRateIn

minimumCellRateIn ATTRIBUTE

WITH ATTRIBUTE SYNTAX

TS32-714TypeModule.MinimumCellRateIn;

MATCHES FOR

EQUALITY;

BEHAVIOUR

minimumCellRateInBehaviour;

REGISTERED AS {ts32-714Attribute 220600};

minimumCellRateInBehaviour BEHAVIOUR

DEFINED AS

"This attribute is described in 3GPP TS32.712 [4].";

-- 6.3.23 minimumCellRateEg

minimumCellRateEg ATTRIBUTE

WITH ATTRIBUTE SYNTAX

TS32-714TypeModule.MinimumCellRateEg;

MATCHES FOR

EQUALITY;

BEHAVIOUR

minimumCellRateEgBehaviour;

REGISTERED AS {ts32-714Attribute 230600};

minimumCellRateEgBehaviour BEHAVIOUR

DEFINED AS

"This attribute is described in 3GPP TS32.712 [4].";

-- 6.3.24 aTMChannelTerminationPoint-aTMPathTerminationPoint

aTMChannelTerminationPoint-aTMPathTerminationPoint ATTRIBUTE

WITH ATTRIBUTE SYNTAX

TS32-714 Type Module. ATM Channel Termination Point-aTM Path Termination Point;

MATCHES FOR

EQUALITY;

BEHAVIOUR

a TM Channel Termination Point-a TMP ath Termination Point Behaviour;

REGISTERED AS {ts32-714Attribute 240600};

aTMChannelTerminationPoint-aTMPathTerminationPointBehaviour BEHAVIOUR

DEFINED AS

"This attribute is described in 3GPP TS32.712 [4].";

-- 6.3.25 aTMChannelTerminationPoint-iubLink

aTMChannelTerminationPoint-iubLink ATTRIBUTE

WITH ATTRIBUTE SYNTAX

TS32-714TypeModule.ATMChannelTerminationPoint-iubLink;

MATCHES FOR

EQUALITY;

BEHAVIOUR

aTMChannelTerminationPoint-iubLinkBehaviour;

REGISTERED AS {ts32-714Attribute 250600};

aTMChannelTerminationPoint-iubLinkBehaviour BEHAVIOUR

DEFINED AS

"This attribute is described in 3GPP TS32.712 [4].";

-- 6.3.26 aTMPathTerminationPointId

aTMPathTerminationPointId ATTRIBUTE

WITH ATTRIBUTE SYNTAX

TS32-714TypeModule.GeneralObjectId;

MATCHES FOR

EQUALITY;

BEHAVIOUR

aTMPathTerminationPointIdBehaviour;

REGISTERED AS {ts32-714Attribute 260600};

aTMPathTerminationPointIdBehaviour BEHAVIOUR

DEFINED AS

"This attribute is described in 3GPP TS32.712 [4].";

-- 6.3.27 physicalPortIdList

physicalPortIdList ATTRIBUTE

WITH ATTRIBUTE SYNTAX

TS32-714TypeModule.PhysicalPortIdList;

MATCHES FOR

EQUALITY;

BEHAVIOUR

physicalPortIdListBehaviour;

REGISTERED AS {ts32-714Attribute 270600};

physicalPortIdListBehaviour BEHAVIOUR

DEFINED AS

"This attribute is described in 3GPP TS32.712 [4].";

-- 6.3.28 aTMPathTerminationPoint-aTMChannelTerminationPoint

 $aTMP ath Termination Point-aTM Channel Termination Point \ {\bf ATTRIBUTE}$

WITH ATTRIBUTE SYNTAX

TS32-714 Type Module. ATMP ath Termination Point-a TMC hannel Termination Point;

MATCHES FOR

EQUALITY;

BEHAVIOUR

aTMP ath Termination Point-aTM Channel Termination Point Behaviour;

REGISTERED AS {ts32-714Attribute 280600};

 $a TMP at hTermination Point-a TM Channel Termination Point Behaviour \ \textbf{BEHAVIOUR}$

DEFINED AS

"This attribute is described in 3GPP TS32.712 [4].";

-- 6.4 Name-Binding

-- 6.4.1 transportNetworkInterface-managedElement

transportNetworkInterface-managedElement NAME BINDING

SUBORDINATE OBJECT CLASS

transport Network Interface;

NAMED BY SUPERIOR OBJECT CLASS

managedElement;

WITH ATTRIBUTE

aTMPathTerminationPointId;

BEHAVIOUR

transportNetworkInterface-managedElementBehaviour;

CREATE

WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;

DELETE

ONLY-IF-NO-CONTAINED-OBJECTS;

REGISTERED AS {ts32-714NameBinding 10600};

transportNetworkInterface-managedElementBehaviour BEHAVIOUR

DEFINED AS

"The name binding represents a relationship in which a managedElement montains and controls a Transport Network Interface. When automatic instance naming is used, the choice of name bindings left as a local matter.";

-- 6.4.2 aTMPathTerminationPoint-transportNetworkInterface

aTMPathTerminationPoint-transportNetworkInterface NAME BINDING

SUBORDINATE OBJECT CLASS

aTMPathTerminationPoint;

NAMED BY SUPERIOR OBJECT CLASS

transportNetworkInterface;

WITH ATTRIBUTE

aTMPathTerminationPointId;

BEHAVIOUR

aTMP ath Termination Point-transport Network Interface Behaviour;

CREATE

WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING:

DELETE

ONLY-IF-NO-CONTAINED-OBJECTS;

REGISTERED AS {ts32-714NameBinding 20600};

 $a TMP ath Termination Point-transport Network Interface Behaviour \ \textbf{BEHAVIOUR}$

DEFINED AS

"The name binding represents a relationship in which a Transport Network Interface contains

and controls a aTMPathTerminationPoint. When automatic instance naming is used, the choice of name bindings left as a local matter.";

-- 6.4.3 aTMChannelTerminationPoint-transportNetworkInterface

aTMChannelTerminationPoint-transportNetworkInterface NAME BINDING

SUBORDINATE OBJECT CLASS

aTMChannelTerminationPoint;

NAMED BY SUPERIOR OBJECT CLASS

transportNetworkInterface;

WITH ATTRIBUTE

aTMChannelTerminationPointId;

BEHAVIOUR

a TM Channel Termination Point-transport Network Interface Behaviour;

CREATE

WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;

DELETE

ONLY-IF-NO-CONTAINED-OBJECTS;

REGISTERED AS {ts32-714NameBinding 30600};

aTMChannelTerminationPoint-transportNetworkInterfaceBehaviour BEHAVIOUR

DEFINED AS

"The name binding represents a relationship in which a Transport Network Interface contains and controls a aTMChannelTerminationPoint. When automatic instance naming is used, the choice of name bindings left as a local matter.";

-- 7 ASN.1 definitions for the Transport Network NRM

TS32-714TypeModule {itu-t(0) identified-organization(4) etsi(0) mobileDomain(0) umts-Operation-Maintenance(3) ts-32-714(714) informationModel(0) asn1Module(2) version10600(10600)}

```
DEFINITIONS IMPLICIT TAGS ::=
BEGIN
-- EXPORTS everything
--IMPORTS nothing
-- 3GPP TS 32.714 related Object Identifiers
baseNodeUMTS
                    OBJECT IDENTIFIER ::= {itu-t(0) identified-organization(4)
                         etsi(0) mobileDomain(0)
                         umts-Operation-Maintenance(3)}
ts32-714
                OBJECT IDENTIFIER ::= {baseNodeUMTS ts32-714(714)}
                    OBJECT IDENTIFIER ::= {ts32-714 informationModel(0)}
ts32-714InfoModel
ts32-714ObjectClass OBJECT IDENTIFIER ::= {ts32-714InfoModel managedObjectClass(3)}
ts32-714Package
                   OBJECT IDENTIFIER ::= {ts32-714InfoModel package(4)}
ts32-714Parameter
                    OBJECT IDENTIFIER ::= {ts32-714InfoModel parameter(5)}
ts32-714NameBinding OBJECT IDENTIFIER ::= {ts32-714InfoModel nameBinding(6)}
                   OBJECT IDENTIFIER ::= {ts32-714InfoModel attribute(7)}
ts32-714Attribute
ts32-714Action
                  OBJECT IDENTIFIER ::= {ts32-714InfoModel action(9)}
ts32-714Notification OBJECT IDENTIFIER ::= {ts32-714InfoModel notification(10)}
-- Start of 3GPP SA5 own definitions
```

ATMChannelTerminationPointId ::= INTEGER

ATMChannelTerminationPoint-aTMPathTerminationPoint ::= GraphicString

```
{\bf ATMChannel Termination Point-iub Link} ::= {\bf Graphic String}
```

ATMPathTerminationPointId ::= INTEGER

ATMPathTerminationPoint-aTMChannelTerminationPoint ::= GraphicString

MaximumBurstSizeIn ::= INTEGER

 $MaximumBurstSizeEg ::= {\tt INTEGER}$

MinimumCellRateIn ::= INTEGER

MinimumCellRateEg ::= INTEGER

MinimumDesiredCellRateIn ::= INTEGER

MinimumDesiredCellRateEg ::= INTEGER

PeakCellRateIn ::= INTEGER

PeakCellRateEg ::= INTEGER

PhysicalInterfaceType ::= ENUMERATED

```
{
e1 (0),
e3 (1),
stm1 (2),
```

stm4 (3),

stm16 (4),

stm64 (5),

other (255)

}

PhysicalLinkType ::= GraphicString

--same as physicalInterfaceType

```
\textbf{PhysicalPortId} ::= Graphical String
```

PhysicalPortIdList ::= SEQUENCE OF GraphicString

```
ServiceCategoryEg ::= ENUMERATED
```

```
{
cbr (0),
rt-vbr (1),
nrt-vbr (2),
abr (3),
ubr (4),
gfr (5)
}
```

}

SustainableCellRateIn ::= INTEGER

Sustainable CellRate Eg ::= INTEGER

 $\boldsymbol{TransportNetworkInterfaceId} ::= INTEGER$

```
\begin{aligned} & \textbf{TransportNetworkType} ::= ENUMERATED \\ & \{ \\ & \text{atm} \quad (0), \\ & \text{ip} \quad (1) \end{aligned}
```

```
UsageChannel ::= GraphicString --e.g. NBAP, ALCAP, ...

UsedAAL ::= ENUMERATED
{
    aal0 (0),
    aal1 (1),
    aal2 (2),
    aal34 (3),
    aal5 (4)
}
```

UserLabel ::= GraphicString

VirtualPathId ::= INTEGER

VirtualChannelId ::= INTEGER

END -- of module TS32-714TypeModule

Annex A (informative): List of assigned Object Identifiers

This annex provides a list with all object identifiers that have been assigned in TS 32.714. These object identifiers shall not be assigned to new objects (also not in new versions of this document).

Basic Name	Name and OID of the current TS Version	Name and OIDs of previous TS Versions					
	Managed Object Classes						
transportNetworkInterface	Name: transportNetworkInterface OID: ts32-714ObjectClass 10600						
aTMChannelTerminationPoint	Name: aTMCHannelTerminationPoint OID: ts32-714ObjectClass 20600						
aTMPathTerminationPoint	Name: aTMPathTerminationPoint OID: ts32-714ObjectClass 30600						
	Packages						
transportNetworkInterfaceMandatoryAttri butesPackage	Name: transportNetworkInterfaceMandatoryAttributesPack age OID: ts32-714Package 10600						
aTMChannelTerminationPointMandatory AttributesPackage	Name: aTMChannelTerminationPointMandatoryAttributes Package OID: ts32-714Package 20600						
aTMChannelTerminationPointOptionalAt tributesPackage1	Name:						
aTMChannelTerminationPointOptionalAt tributesPackage2	Name: aTMChannelTerminationPointOptionalAttributesPa ckage1 OID: :ts32-714Package 40600						
aTMChannelTerminationPointOptionalAt tributesPackage3	Name: aTMChannelTerminationPointOptionalAttributesPa ckage1 OID: :ts32-714Package 50600						
aTMChannelTerminationPointOptionalAt tributesPackage4	Name: aTMChannelTerminationPointOptionalAttributesPa ckage1 OID: :ts32-714Package 60600						
aTMChannelTerminationPointOptionalAt tributesPackage5	Name: aTMChannelTerminationPointOptionalAttributesPa ckage1 OID: :ts32-714Package 70600						
aTMChannelTerminationPointOptionalAt tributesPackage6	Name: aTMChannelTerminationPointOptionalAttributesPa ckage1 OID: :ts32-714Package 80600						
aTMPathTerminationPointMandatoryAttr ibutesPackage	Name: aTMPathTerminationPointMandatoryAttributesPac kage OID: ts32-714Package 90600						
	Actions						
	Notifications						
	Attributes						
aTMChannelTerminationPointId	Name: aTMChannelTerminationPointId OID: ts32-714Action 40600						
aTMChannelTerminationPoint- aTMPathTerminationPoint	Name: aTMChannelTerminationPoint- aTMPathTerminationPoint OID: ts32-714Action 240600						

	Name: aTMChannelTerminationPoint-iubLink	T
aTMChannelTerminationPoint- iubLink	OID: ts32-714Action 250600	
aTMPathTerminationPointId	Name: aTMPathlTerminationPoint OID: ts32-714Action 260600	
man am i i ni	Name: aTMPathTerminationPoint-	
aTMPathTerminationPoint-	aTMChannelTerminationPoint	
aTMChannelTerminationPoint	OID: ts32-714Action 280600	
maximumBurstSizeIn	Name maximumBurstSizeIn	
maximumburstsizem	OID: ts32-714Action 180600	
maximumBurstSizeEg	Name: maximumBurstSizeEg	
maximum burstonzezg	OID: ts32-714Action 190600	
minimumCellRateIn	Name: minimumCellRateIn	
	OID: ts32-714Action 220600	
minimumCellRateEg	Name: minimumCellRateEg OID: ts32-714Action 230600	
	Name: minimumDesiredCellRateIn	
minimumDesiredCellRateIn	OID: ts32-714Action 200600	
	Name: minimumDesiredCellRateEg	
minimumDesiredCellRateEg	OID: ts32-714Action 210600	
10.110 . 1	Name: peakCellRateIn	
peakCellRateIn	OID: ts32-714Action 140600	
peakCellRateEg	Name: peakCellRateEg	
peakCelikateEg	OID: ts32-714Action 150600	
physicalInterfaceType	Name: physicalInterfaceType	
physicalinterfaceType	OID: ts32-714Action 100600	
physicalLinkType	Name: physicalLinkType	
1 7 71	OID: ts32-714Action 90600	
physicalPortId	Name: physicalPortId OID: ts32-714Action 80600	
	Name: physicalPortIdList	
physicalPortIdList	OID: ts32-714Action 270600	
	Name: serviceCategoryIn	
serviceCategoryIn	OID: ts32-714Action 110600	
· C / F	Name: serviceCategoryEg	
serviceCategoryEg	OID: ts32-714Action 120600	
sustainableCellRateIn	Name: sustainableCellRateIn	
sustamableCentratem	OID: ts32-714Action 16600	
sustainableCellRateEg	Name: sustainableCellRateEg	
	OID: ts32-714Action 17600	
transportNetworkInterfaceId	Name: transportNetworkInterfaceId	
	OID: ts32-714Action 10600 Name: transportNetworkType	
transportNetworkType	OID: ts32-714Action 30600	
	Name: usageChannel	
usageChannel	OID: ts32-714Action 50600	
14.47	Name: usedAAL	
usedAAL	OID: ts32-714Action 120600	
userLabel	Name: userLabel	
uscilauci	OID: ts32-714Action 20600	
virtualChannelId	Name: a virtualChannelId	
	OID: ts32-714Action 70600	
virtualPathId	Name: virtualPathId	
	OID: ts32-714Action 60600	
	Parameters	
	T	
	Name Bindings	
transportNetworkInterface-	Name: transportNetworkInterface-managedElement	
managedElement	OID: ts32-714NameBinding 10600 Name: aTMPathTerminationPoint-	
aTMPathTerminationPoint-	Name: aTMPathTerminationPoint- transportNetworkInterface	
transportNetworkInterface	OID: ts32-714NameBinding 20600	
	Name: aTMChannelTerminationPoint-	
aTMChannelTerminationPoint-	transportNetworkInterface	
transportNetworkInterface	OID: ts32-714NameBinding 30600	
	1	1

Annex B (informative): Change history

	Change history							
	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New	
Dec 2004	S_26	SP-040818			Submitted to SA#26 for Approval	1.0.0	6.0.0	

History

Document history		
V6.0.0	December 2004	Publication