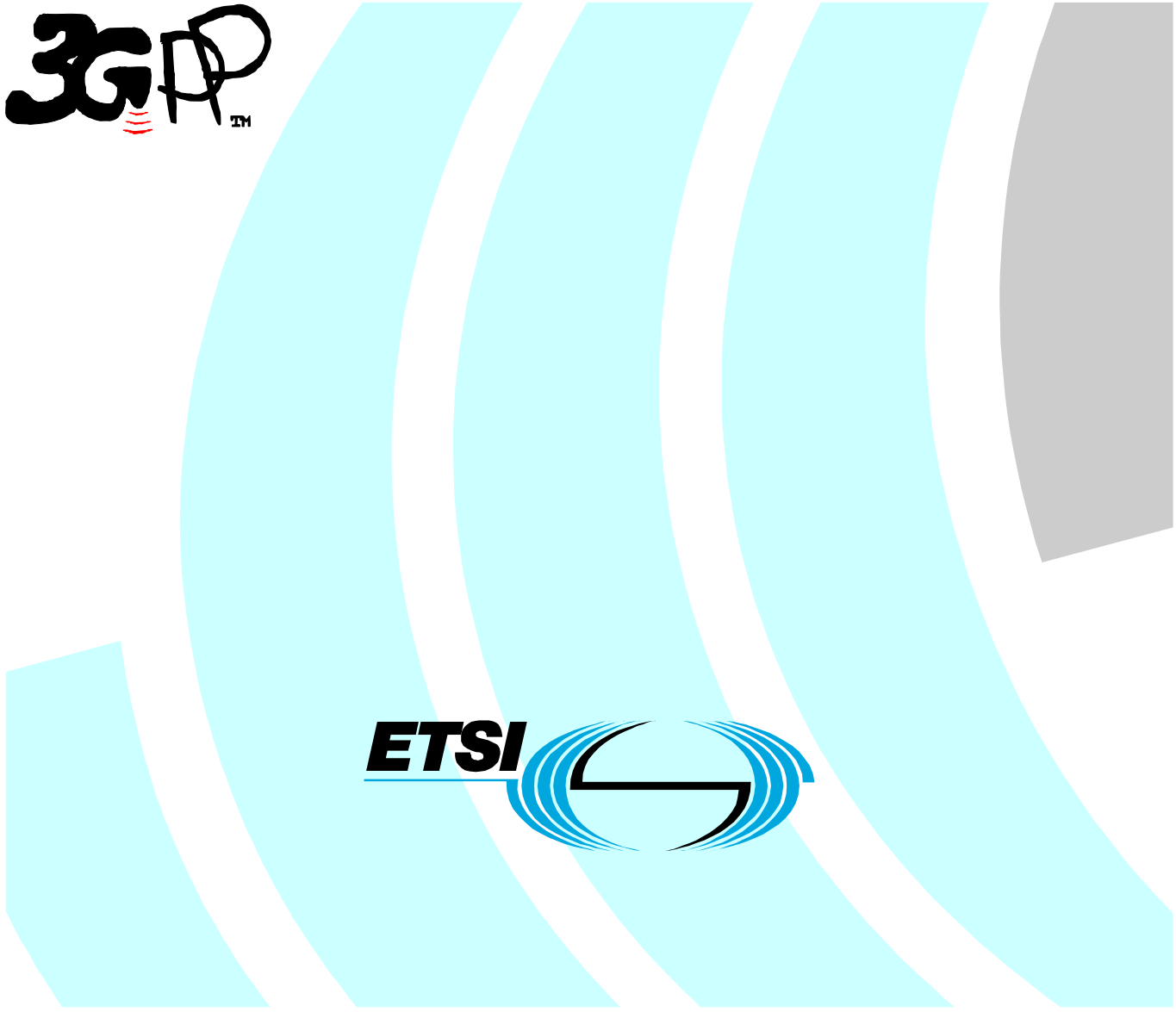
ETSI TS 132 744 V6.0.0 (2004-12)

Technical Specification

Universal Mobile Telecommunications System (UMTS);
Telecommunication management;
Configuration Management (CM);
Signalling Transport Network (STN) interface
Network Resource Model (NRM)
Integration Reference Point (IRP):
Common Management Information Protocol (CMIP)
Solution Set (SS)
(3GPP TS 32.744 version 6.0.0 Release 6)



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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 .

Contents

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; Configuration Management (CM); as identified below:

TS 32.741: "Signalling Transport Network (STN) interface Network Resource Model (NRM) Integration Reference Point (IRP); Requirements".

TS 32.742: "Signalling Transport Network (STN) interface Network Resource Model (NRM) Integration Reference Point (IRP); Information Service (IS)".

TS 32.743: "Signalling Transport Network (STN) interface Network Resource Model (NRM) Integration Reference Point (IRP); Common Object Request Broker Architecture (CORBA) Solution Set (SS)".

TS 32.744: "Signalling Transport Network (STN) interface Network Resource Model (NRM) Integration Reference Point (IRP); Common Management Information Protocol (CMIP) Solution Set (SS)".

TS 32.745: "Signalling Transport Network (STN) interface Network Resource Model (NRM) Integration Reference Point (IRP); Bulk CM eXtensible Markup Language (XML) file format definition".

Configuration Management (CM), in general, provides the operator with the ability to assure correct and effective operation of the 3G network as it evolves. CM actions have the objective to control and monitor the actual configuration on the Network Elements (NEs) and Network Resources (NRs), and they may be initiated by the operator or by functions in the Operations Systems (OSs) or NEs.

CM actions may be requested as part of an implementation programme (e.g. additions and deletions), as part of an optimisation programme (e.g. modifications), and to maintain the overall Quality of Service (QoS). The CM actions are initiated either as single actions on single NEs of the 3G network, or as part of a complex procedure involving actions on many resources/objects in one or several NEs.

1 Scope

The purpose of this STN Network Resources IRP: CMIP Solution Set is to define the mapping of the IRP information model (see 3GPP TS 32.742 [4]) to the protocol specific details necessary for implementation of this IRP in a CORBA/IDL environment.

This Solution Set specification is related to 3GPP TS 32.742 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 32.742: "Telecommunication management; Configuration Management (CM); Signalling Transport Network (STN) 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 (CMIP) Solution Set (SS)".

[7] ITU-T Recommendation X.710 (1991): "Common Management Information Service Definition for CCITT Applications",

ITU-T Recommendation X.711: "Information technology - Open Systems Interconnection - Common Management Information Protocol: Specification".

[8] 3GPP TS 32.111-2: "Telecommunication management; Fault Management (FM); Part 2: Alarm Integration Reference Point (IRP); Information Service (IS)".

[9] ITU-T Recommendation X.721 (02/92): "Information Technology - Open Systems Interconnection – Structure of Management Information: Definition of Management Information".

[10 ITU-T Recommendation M.3100 (07/95): "Maintenance Telecommunications Management Network – Generic Network Information Model".

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 32.742 [4].

3.2 Abbreviations

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

ASN.1	Abstract Syntax Notation 1
CMIP	Common Management Information Protocol
DN	Distinguished Name
IS	Information Service
GDMO	Guidelines for the Definition of Managed Objects
IRP	Integration Reference Point
MO	Managed Object
MOC	Managed Object Class
NRM	Network Resource Model
SS	Solution Set
STN	Signalling Transport Network

4 Architectural features

The overall architectural feature of STN Network Resources IRP is specified in 3GPP TS 32.742 [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]).

4.2 Syntax for Distinguished Names and Versions

The format of a Distinguished Name is defined in 3GPP TS 32.300 [5].

5 Mapping

5.1 General mappings

Attributes modelling associations as defined in the NRM (here also called "reference attributes") are in this SS mapped to attributes. 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 MO reference 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 MO references.

5.2 STN NRM Information Object Class (IOC) mapping

This Solution Set supports reference attributes for relations other than containment relations between objects. Reference attributes are therefore introduced in each MOC where needed.

Mapping of Information Object Classes

IS IOC	CMIP SS MOC
MtpSignPoint e	mtpSignPoint
SignLinkSetTp	signLinkSetTp
SignLinkTp	signLinkTp
SignRouteSetNePart	signRouteSetNePart
SignRouteNePart	signRouteNePart

5.2.1 IOC MtpSignPoint

Mapping from NRM IOC MtpSignPoint attributes to SS equivalent MOC MtpSignPoint attributes

IS Attribute	CMIP SS Attribute	Support Qualifier	Read Qualifier	Write Qualifier
mtpSignPointId	mtpSignPointId	M	M	--
pointCode	pointCode	M	M	--
networkIndicator	networkIndicator	M	M	--
pointCodeLength	pointCodeLength	M	M	--
spType	spType	M	M	--
userLabel	userLabel	M	M	M
relatedObjects	relatedObjects	M	M	--

5.2.2 IOC SignLinkSetTp

Mapping from NRM IOC SignLinkSetTp attributes to SS equivalent MOC SignLinkSetTp attributes

IS Attribute	CMIP SS Attribute	Support Qualifier	Read Qualifier	Write Qualifier
signLinkSetTpId	signLinkSetTpId	M	M	-
adjPc	adjPc	M	M	-
userLabel	userLabel	M	M	M
maxCapacityLS	maxCapacityLS	M	M	-

5.2.3 IOC SignLinkTp

Mapping from NRM IOC SignLinkTp attributes to SS equivalent MOC SignLinkTp attributes

IS Attribute	CMIP SS Attribute	Support Qualifier	Read Qualifier	Write Qualifier
signLinkTpId	signLinkTpId	M	M	-
slCode	slCode	M	M	-
slsCodeNormalList	slsCodeNormalList	O	M	-
slsCodeCurrentList	slsCodeCurrentList	M	M	-
linkTpStatus	linkTpStatus	M	M	-
maxCapacitySL	maxCapacitySL	M	M	-
userLabel	userLabel	M	M	M
signLinkType	signLinkType	M	M	-

5.2.5 IOC SignRouteSetNePart

Mapping from NRM IOC SignRouteSetNePart attributes to SS equivalent MOC SignRouteSetNePart attributes

IS Attribute	CMIP SS Attribute	Support Qualifier	Read Qualifier	Write Qualifier
signRouteSetNePartId	signRouteSetNePartId	M	M	-
destinationPc	destinationPc	M	M	-
userLabel	userLabel	M	M	M
loadsharingInformationRouteSetNePart	loadsharingInformationRouteSetNePart	M	M	-

5.2.6 IOC SignRouteNePart

Mapping from NRM IOC SignRouteNePart attributes and association roles to SS equivalent MOC SignRouteNePart attributes

IS Attribute	CMIP SS Attribute	Support Qualifier	Read Qualifier	Write Qualifier
signRouteNePartId	signRouteNePartId	M	M	-
signLinkSetTpPointer	signLinkSetTpPointer	M	M	-
fixedPriority	fixedPriority	M	M	-
userLabel	userLabel	M	M	M

-- 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 mtpSignPoint

mtpSignPoint **MANAGED OBJECT CLASS**

DERIVED FROM

"3GPP TS32.622" : top;

CHARACTERIZED BY

mtpSignPointMandatoryAttributesPackage,

"3GPP TS 32.111-4": x721AlarmNotificationsPackage;

CONDITIONAL PACKAGES

"Rec. M.3100: 1995":createDeleteNotificationsPackage

PRESENT IF

"the objectCreation and the objectDeletion notifications defined in

ITU-T Rec. X.721 are supported by an instance of this class.",

"Rec. M.3100: 1995 [10]": attributeValueChangeNotificationPackage

PRESENT IF "the attributeValueChange notification defined in

ITU-T Rec. X.721 [9] is supported by an instance of this class.";

REGISTERED AS {ts32-744ObjectClass 10600};

-- 6.1.2 signLinkSetTp

signLinkSetTp **MANAGED OBJECT CLASS**

DERIVED FROM

"3GPP TS32.622" : top;

CHARACTERIZED BY

signLinkSetTpMandatoryAttributesPackage

"3GPP TS 32.111-4": x721AlarmNotificationsPackage;

CONDITIONAL PACKAGES

"Rec. M.3100: 1995":createDeleteNotificationsPackage

PRESENT IF

"the objectCreation and the objectDeletion notifications defined in

ITU-T Rec. X.721 are supported by an instance of this class.",

"Rec. M.3100: 1995 [10]":attributeValueChangeNotificationPackage

PRESENT IF "the attributeValueChange notification defined in

ITU-T Rec. X.721 [9] is supported by an instance of this class.";

REGISTERED AS {ts32-744ObjectClass 20600};

-- 6.1.3 signLinkTp

signLinkTp **MANAGED OBJECT CLASS**

DERIVED FROM

"3GPP TS32.622" : top;

CHARACTERIZED BY

signLinkTpMandatoryAttributesPackage,

signLinkTpOptionalAttributesPackage,

"3GPP TS 32.111-4": x721AlarmNotificationsPackage;

CONDITIONAL PACKAGES

"Rec. M.3100: 1995":createDeleteNotificationsPackage

PRESENT IF

"the objectCreation and the objectDeletion notifications defined in

ITU-T Rec. X.721 are supported by an instance of this class.",

"Rec. M.3100: 1995 [10]":attributeValueChangeNotificationPackage

PRESENT IF "the attributeValueChange notification defined in

ITU-T Rec. X.721 [9] is supported by an instance of this class.";

REGISTERED AS {ts32-744ObjectClass 30600};

-- 6.1.4 signRouteSetNePart

signRouteSetNePart **MANAGED OBJECT CLASS**

DERIVED FROM

"3GPP TS32.622" : top;

CHARACTERIZED BY

signRouteSetNePartMandatoryAttributesPackage

"3GPP TS 32.111-4": x721AlarmNotificationsPackage;

CONDITIONAL PACKAGES

"Rec. M.3100: 1995":createDeleteNotificationsPackage

PRESENT IF

"the objectCreation and the objectDeletion notifications defined in
ITU-T Rec. X.721 are supported by an instance of this class.",
"Rec. M.3100: 1995":attributeValueChangeNotificationPackage
PRESENT IF
"the attributeValueChange notification defined in ITU-T Rec. X.721
is supported by an instance of this class.";
REGISTERED AS {ts32-744ObjectClass 40600};

-- 6.1.5 signRouteNePart

signRouteNePart **MANAGED OBJECT CLASS**
DERIVED FROM
"3GPP TS32.622" : top;
CHARACTERIZED BY
signRouteNePartMandatoryAttributesPackage;
"3GPP TS 32.111-4": x721AlarmNotificationsPackage;
CONDITIONAL PACKAGES
"Rec. M.3100: 1995":createDeleteNotificationsPackage
PRESENT IF
"the objectCreation and the objectDeletion notifications defined in
ITU-T Rec. X.721 are supported by an instance of this class.",
"Rec. M.3100: 1995 [10]":attributeValueChangeNotificationPackage
PRESENT IF "the attributeValueChange notification defined in
ITU-T Rec. X.721 [9] is supported by an instance of this class.";
REGISTERED AS {ts32-744ObjectClass 50600};

-- 6.2 Packages

-- 6.2.1 mtpSignPointMandatoryAttributesPackage

mtpSignPointMandatoryAttributesPackage **PACKAGE**
BEHAVIOUR
mtpSignPointMandatoryAttributesPackageBehaviour;
ATTRIBUTES
mtpSignPointId GET,
pointCode GET,

networkIndicator GET,

pointCodeLength GET,

spType GET,

userLabel GET-REPLACE,

relatedObjects GET;

REGISTERED AS {ts32-744Package 10600};

mtpSignPointMandatoryAttributesPackageBehaviour **BEHAVIOUR**

DEFINED AS

"These are the mandatory attributes of the MOC MtpSignPoint.";

-- 6.2.2 signLinkSetTpMandatoryAttributesPackage

signLinkSetTpMandatoryAttributesPackage **PACKAGE**

BEHAVIOUR

signLinkSetTpMandatoryAttributesPackageBehaviour;

ATTRIBUTES

signLinkSetTpId GET,

adjPc GET,

userLabel GET-REPLACE,

maxCapacityLS GET;

REGISTERED AS {ts32-744Package 20600};

signLinkSetTpMandatoryAttributesPackageBehaviour **BEHAVIOUR**

DEFINED AS

"These are the mandatory attributes of the MOC SignLinkSetTp.";

-- 6.2.3 signLinkTpMandatoryAttributesPackage

signLinkTpMandatoryAttributesPackage **PACKAGE**

BEHAVIOUR

signLinkTpMandatoryAttributesPackageBehaviour;

ATTRIBUTES

signLinkTpId GET,

slCode GET,

slsCodeCurrentList GET,

linkTpStatus GET,

maxCapacitySL GET,

userLabel GET-REPLACE,

signLinkType GET;

REGISTERED AS {ts32-744Package 30600};

signLinkTpMandatoryAttributesPackageBehaviour **BEHAVIOUR**

DEFINED AS

"These are the mandatory attributes of the MOC SignLinkTp.";

-- 6.2.4 signLinkTpOptionalAttributesPackage

signLinkTpOptionalAttributesPackage **PACKAGE**

BEHAVIOUR

signLinkTpOptionalAttributesPackageBehaviour;

ATTRIBUTES

slsCodeNormalList GET;

REGISTERED AS {ts32-744Package 40600};

signLinkTpOptionalAttributesPackageBehaviour **BEHAVIOUR**

DEFINED AS

"These are the optional attributes of the MOC SignLinkTp.";

-- 6.2.5 signRouteSetNePartMandatoryAttributesPackage

signRouteSetNePartMandatoryAttributesPackage **PACKAGE**

BEHAVIOUR

signRouteSetNePartMandatoryAttributesPackageBehaviour;

ATTRIBUTES

signRouteSetNePartId GET,

destinationPc GET,

userLabel GET-REPLACE,

loadsharingInformationRouteSetNePart GET;

REGISTERED AS {ts32-744Package 50600};

signRouteSetNePartMandatoryAttributesPackageBehaviour **BEHAVIOUR**

DEFINED AS

"These are the mandatory attributes of the MOC SignRouteSetNePart.";

-- 6.2.6 signRouteNePartMandatoryAttributesPackage

signRouteNePartMandatoryAttributesPackage **PACKAGE**

BEHAVIOUR

signRouteNePartMandatoryAttributesPackageBehaviour;

ATTRIBUTES

signRouteNePartId GET,

signLinkSetTpPointer GET,

fixedPriority GET,

userLabel GET-REPLACE;

REGISTERED AS {ts32-744Package 60600};

signRouteNePartMandatoryAttributesPackageBehaviour **BEHAVIOUR**

DEFINED AS

"These are the mandatory attributes of the MOC SignRouteNePart.";

-- 6.3 Attributes

-- 6.3.1 mtpSignPointId

mtpSignPointId **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX

TS32-744TypeModule.GeneralObjectId;

MATCHES FOR

EQUALITY;

BEHAVIOUR

mtpSignPointIdBehaviour;

REGISTERED AS {ts32-744Attribute 10600};

mtpSignPointIdBehaviour **BEHAVIOUR**

DEFINED AS

"This attribute is described in 3GPP TS32.742 [4].";

-- 6.3.2 pointCode

pointCode **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX

TS32-744TypeModule.PointCode;

MATCHES FOR

EQUALITY;

BEHAVIOUR

pointCodeBehaviour;

REGISTERED AS {ts32-744Attribute 20600};

pointCodeBehaviour **BEHAVIOUR**

DEFINED AS

"This attribute is described in 3GPP TS32.742 [4].";

-- 6.3.3 networkIndicator

networkIndicator **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX

TS32-744TypeModule.NetworkIndicator;

MATCHES FOR

EQUALITY;

BEHAVIOUR

networkIndicatorBehaviour;

REGISTERED AS {ts32-744Attribute 30600};

networkIndicatorBehaviour **BEHAVIOUR**

DEFINED AS

"This attribute is described in 3GPP TS32.742 [4].";

-- 6.3.4 pointCodeLength

pointCodeLength **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX

TS32-744TypeModule.PointCodeLength;

MATCHES FOR

EQUALITY;

BEHAVIOUR

pointCodeLengthBehaviour;

REGISTERED AS {ts32-744Attribute 40600};

pointCodeLengthBehaviour **BEHAVIOUR**

DEFINED AS

"This attribute is described in 3GPP TS32.742 [4].";

-- 6.3.5 spType

spType **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX

TS32-744TypeModule.SpType;

MATCHES FOR

EQUALITY;

BEHAVIOUR

spTypeBehaviour;

REGISTERED AS {ts32-744Attribute 50600};

spTypeBehaviour **BEHAVIOUR**

DEFINED AS

"This attribute is described in 3GPP TS32.742 [4].";

-- 6.3.6 userLabel

userLabel **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX

TS32-744TypeModule.UserLabel;

MATCHES FOR

EQUALITY;

BEHAVIOUR

userLabelBehaviour;

REGISTERED AS {ts32-744Attribute 60600};

userLabelBehaviour **BEHAVIOUR**

DEFINED AS

"This attribute is described in 3GPP TS32.742 [4].";

-- 6.3.7 relatedObjects

relatedObjects **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX

TS32-744TypeModule.RelatedObjects;

MATCHES FOR

EQUALITY;

BEHAVIOUR

relatedObjectsBehaviour;

REGISTERED AS {ts32-744Attribute 70600};

relatedObjectsBehaviour **BEHAVIOUR**

DEFINED AS

"This attribute is described in 3GPP TS32.742 [4].";

-- 6.3.8 signLinkSetTpId

signLinkSetTpId **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX

TS32-744TypeModule.GeneralObjectId;

MATCHES FOR

EQUALITY;

BEHAVIOUR

signLinkSetTpIdBehaviour;

REGISTERED AS {ts32-744Attribute 80600};

signLinkSetTpIdBehaviour **BEHAVIOUR**

DEFINED AS

"This attribute is described in 3GPP TS32.742 [4].";

-- 6.3.9 adjPc

adjPc **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX

TS32-744TypeModule.AdjPc;

MATCHES FOR

EQUALITY;

BEHAVIOUR

adjPcBehaviour;

REGISTERED AS {ts32-744Attribute 90600};

adjPcBehaviour **BEHAVIOUR**

DEFINED AS

"This attribute is described in 3GPP TS32.742 [4].";

-- 6.3.10 maxCapacityLS

maxCapacityLS **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX

TS32-744TypeModule.MaxCapacityLS;

MATCHES FOR

EQUALITY;

BEHAVIOUR

maxCapacityLSBehaviour;

REGISTERED AS {ts32-744Attribute 100600};

maxCapacityLSBehaviour **BEHAVIOUR**

DEFINED AS

"This attribute is described in 3GPP TS32.742 [4].";

-- 6.3.11 maxCapacitySL

maxCapacitySL **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX

TS32-744TypeModule.MaxCapacitySL;

MATCHES FOR

EQUALITY;

BEHAVIOUR

maxCapacitySLBehaviour;

REGISTERED AS {ts32-744Attribute 110600};

maxCapacitySLBehaviour **BEHAVIOUR**

DEFINED AS

"This attribute is described in 3GPP TS32.742 [4].";

-- 6.3.12 signLinkTpId

signLinkTpId **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX

TS32-744TypeModule.SignLinkTpId;

MATCHES FOR

EQUALITY;

BEHAVIOUR

signLinkTpIdBehaviour;

REGISTERED AS {ts32-744Attribute 120600};

signLinkTpIdBehaviour **BEHAVIOUR**

DEFINED AS

"This attribute is described in 3GPP TS32.742 [4].";

-- 6.3.13 slCode

slCode **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX

TS32-744TypeModule.SlCode;

MATCHES FOR

EQUALITY;

BEHAVIOUR

slCodeBehaviour;

REGISTERED AS {ts32-744Attribute 130600};

slCodeBehaviour **BEHAVIOUR**

DEFINED AS

"This attribute is described in 3GPP TS32.742 [4].";

-- 6.3.14 slsCodeNormalList

slsCodeNormalList **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX

TS32-744TypeModule.SlsCodeNormalList;

MATCHES FOR

EQUALITY;

BEHAVIOUR

slsCodeNormalListBehaviour;

REGISTERED AS {ts32-744Attribute 140600};

slsCodeNormalListBehaviour **BEHAVIOUR**

DEFINED AS

"This attribute is described in 3GPP TS32.742 [4].";

-- 6.3.15 slsCodeCurrentList

slsCodeCurrentList **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX

TS32-744TypeModule.SlsCodeCurrentList;

MATCHES FOR

EQUALITY;

BEHAVIOUR

slsCodeCurrentListBehaviour;

REGISTERED AS {ts32-744Attribute 150600};

slsCodeCurrentListBehaviour **BEHAVIOUR**

DEFINED AS

"This attribute is described in 3GPP TS32.742 [4].";

-- 6.3.16 linkTpStatus

linkTpStatus **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX

TS32-744TypeModule.LinkTpStatus;

MATCHES FOR

EQUALITY;

BEHAVIOUR

linkTpStatusBehaviour;

REGISTERED AS {ts32-744Attribute 160600};

linkTpStatusBehaviour **BEHAVIOUR**

DEFINED AS

"This attribute is described in 3GPP TS32.742 [4].";

-- 6.3.17 linkTpStatus

signLinkType **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX

TS32-744TypeModule.SignLinkType;

MATCHES FOR

EQUALITY;

BEHAVIOUR

signLinkTypeBehaviour;

REGISTERED AS {ts32-744Attribute 170600};

signLinkTypeBehaviour **BEHAVIOUR**

DEFINED AS

"This attribute is described in 3GPP TS32.742 [4].";

-- 6.3.18 signRouteSetNePartId

signRouteSetNePartId **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX

TS32-744TypeModule.GeneralObjectId;

MATCHES FOR

EQUALITY;

BEHAVIOUR

signRouteSetNePartIdBehaviour;

REGISTERED AS {ts32-744Attribute 180600};

signRouteSetNePartIdBehaviour **BEHAVIOUR**

DEFINED AS

"This attribute is described in 3GPP TS32.742 [4].";

-- 6.3.19 destinationPc

destinationPc **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX

TS32-744TypeModule.DestinationPc;

MATCHES FOR

EQUALITY;

BEHAVIOUR

destinationPcBehaviour;

REGISTERED AS {ts32-744Attribute 190600};

destinationPcBehaviour **BEHAVIOUR**

DEFINED AS

"This attribute is described in 3GPP TS32.742 [4].";

-- 6.3.20 loadsharingInformationRouteSetNePart

loadsharingInformationRouteSetNePart **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX

TS32-744TypeModule.LoadsharingInformationRouteSetNePart;

MATCHES FOR

EQUALITY;

BEHAVIOUR

loadsharingInformationRouteSetNePartBehaviour;

REGISTERED AS {ts32-744Attribute 200600};

loadsharingInformationRouteSetNePartBehaviour **BEHAVIOUR**

DEFINED AS

"This attribute is described in 3GPP TS32.742 [4].";

-- 6.3.21 signRouteNePartId

signRouteNePartId **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX

TS32-744TypeModule.GeneralObjectId;

MATCHES FOR

EQUALITY;

BEHAVIOUR

signRouteNePartIdBehaviour;

REGISTERED AS {ts32-744Attribute 210600};

signRouteNePartIdBehaviour **BEHAVIOUR**

DEFINED AS

"This attribute is described in 3GPP TS32.742 [4].";

-- 6.3.22 signLinkSetTpPointer

signLinkSetTpPointer **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX

TS32-744TypeModule.SignLinkSetTpPointer;

MATCHES FOR

EQUALITY;

BEHAVIOUR

signLinkSetTpPointerBehaviour;

REGISTERED AS {ts32-744Attribute 220600};

signLinkSetTpPointerBehaviuor **BEHAVIOUR**

DEFINED AS

"This attribute is described in 3GPP TS32.742 [4].";

-- 6.3.23 fixedPriority

fixedPriority **ATTRIBUTE**

WITH ATTRIBUTE SYNTAX

TS32-744TypeModule.FixedPriority;

MATCHES FOR

EQUALITY;

BEHAVIOUR

fixedPriorityBehaviour;

REGISTERED AS {ts32-744Attribute 230600};

fixedPriorityBehaviour **BEHAVIOUR**

DEFINED AS

"This attribute is described in 3GPP TS32.742 [4].";

-- 6.4 Name-Binding

-- 6.4.1 signLinkSetTp-mtpSignPoint

signLinkSetTp-mtpSignPoint **NAME BINDING**

SUBORDINATE OBJECT CLASS

signLinkSetTp;

NAMED BY SUPERIOR OBJECT CLASS

stpSignPoint;

WITH ATTRIBUTE

signLinkSetTPId;

BEHAVIOUR

signLinkSetTp-mtpSignPointBehaviour;

CREATE

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

DELETE

ONLY-IF-NO-CONTAINED-OBJECTS;

REGISTERED AS {ts32-744NameBinding 10600};

signLinkSetTp-mtpSignPointBehaviour **BEHAVIOUR**

DEFINED AS

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

-- 6.4.2 signRouteSetNePart-mtpSignPoint

signRouteSetNePart-mtpSignPoint **NAME BINDING**

SUBORDINATE OBJECT CLASS

signRouteSetNePart;

NAMED BY SUPERIOR OBJECT CLASS

mtpSignPoint;

WITH ATTRIBUTE

signRouteSetNePartId;

BEHAVIOUR

signRouteSetNePart-mtpSignPointBehaviour;

CREATE

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

DELETE

ONLY-IF-NO-CONTAINED-OBJECTS;

REGISTERED AS {ts32-744NameBinding 20600};

signRouteSetNePart-mtpSignPointBehaviour **BEHAVIOUR**

DEFINED AS

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

-- 6.4.3 signRouteNePart-signRouteSetNePart

signRouteNePart-signRouteSetNePart **NAME BINDING**

SUBORDINATE OBJECT CLASS

signRouteNePart;

NAMED BY SUPERIOR OBJECT CLASS

signRouteSetNePart;

WITH ATTRIBUTE

signRouteNePartId;

BEHAVIOUR

signRouteNePart-signRouteSetNePartBehaviour;

CREATE

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

DELETE

ONLY-IF-NO-CONTAINED-OBJECTS;

REGISTERED AS {ts32-744NameBinding 30600};

signRouteNePart-signRouteSetNePartBehaviour **BEHAVIOUR**

DEFINED AS

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

-- 6.4.4 signLinkTp-signLinkSetTp

signLinkTp-signLinkSetTp **NAME BINDING**

SUBORDINATE OBJECT CLASS

signLinkTp;

NAMED BY SUPERIOR OBJECT CLASS

signLinkSetTp;

WITH ATTRIBUTE

signLinkTpId;

BEHAVIOUR

signLinkTp-signLinkSetTpBehaviour;

CREATE

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

DELETE

ONLY-IF-NO-CONTAINED-OBJECTS;

REGISTERED AS {ts32-744NameBinding 40600};

signLinkTp-signLinkSetTpBehaviour **BEHAVIOUR**

DEFINED AS

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

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

TS32-744TypeModule {itu-t(0) identified-organization(4) etsi(0) mobileDomain(0) umts-Operation-Maintenance(3) ts-32-744(744) informationModel(0) asn1Module(2) version10600(10600)}

DEFINITIONS IMPLICIT TAGS ::=

BEGIN

--EXPORTS everything

--IMPORTS nothing

-- 3GPP TS 32.744 related Object Identifiers

baseNodeUMTS OBJECT IDENTIFIER ::= {itu-t(0) identified-organization(4)
etsi(0) mobileDomain(0)
umts-Operation-Maintenance(3)}

ts32-744 OBJECT IDENTIFIER ::= {baseNodeUMTS ts32-744(744)}

ts32-744InfoModel OBJECT IDENTIFIER ::= {ts32-744 informationModel(0)}

ts32-744ObjectClass OBJECT IDENTIFIER ::= {ts32-744InfoModel managedObjectClass(3)}

ts32-744Package OBJECT IDENTIFIER ::= {ts32-744InfoModel package(4)}

ts32-744NameBinding OBJECT IDENTIFIER ::= {ts32-744InfoModel nameBinding(6)}

ts32-744Attribute OBJECT IDENTIFIER ::= {ts32-744InfoModel attribute(7)}

ts32-744Notification OBJECT IDENTIFIER ::= {ts32-744InfoModel notification(10)}

-- Start of 3GPP SA5 own definitions

AdjPc ::= INTEGER

DestinationPc ::= INTEGER

FixedPriority ::= INTEGER(0…255)

LinkTpStatus ::= ENUMERATED
{
deactivted (0),
failed (1),
localBlocked (2),
remoteBlocked (3),
localInhibited (4),
remoteInhibited (5)
}

LoadsharingInformationRouteSetNePart ::= GraphicString

MaxCapacityLS ::= FLOAT

MaxCapacitySL ::= FLOAT

MOReference ::= ObjectInstance

MtpSignPointId ::= GraphicString

NetworkIndicator ::= ENUMERATED
{
international (0),
spare (1),
national (2),
nationalSpare (3)
}

PointCode ::= INTEGER

PointCodeLengthType ::= ENUMERATED
{
bits24 (0),

```
  bits14        (1)
  }

RelatedObjects ::= SEQUENCE OF MOReference

SignLinkSetTpId ::= GraphicString

SignLinkSetTpPointer ::= MOReference

SignLinkTpId ::= GraphicString

SignLinkType ::= ENUMERATED
  {
  st64k      (0),
  st2m       (1)
  }

SignRouteNePartId ::= GraphicString

SignRouteSetNePartId ::= GraphicString

SlCode ::= INTEGER

SlsCode ::= INTEGER

SlsCodeNormalList ::= SEQUENCE OF SLSCode

SlsCodeCurrentList ::= SEQUENCE OF SLSCode

SpType ::= ENUMERATED
  {
  sep       (0),
  stp       (1),
  step      (2)
  }
```

UserLabel ::= GraphicString

END -- of module TS32-744TypeModule

Annex A (informative): List of assigned Object Identifiers

This annex provides a list with all object identifiers that have been assigned in TS 32.744. 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		
mtpSignPoint	Name: mtSignPoint OID: ts32-744ObjectClass 10600	--
signLinkSetTp	Name signLinkSetTp OID: ts32-744ObjectClass 20600	--
signLinkTp	Name: signLinkTp OID: ts32-744ObjectClass 30600	--
signRouteSetNePart	Name: signRouteSetNePart Name: ts32-744ObjectClass40600	--
signRouteNePart	Name: signRouteNePart OID: ts32-744ObjectClass50600	--
Packages		
mtpSignPointMandatoryAttributesPackage	Name: mtpSignPointMandatoryAttributesPackage OID: ts32-744Package 10600	--
signLinkSetTpMandatoryAttributesPackage	Name: signLinkSetTpMandatoryAttributesPackage OID: ts32-744Package 20600	--
signLinkTpMandatoryAttributesPackage	Name: signLinkTpMandatoryAttributesPackage OID: ts32-744Package 30600	--
signLinkTpOptionalAttributesPackage	Name: signLinkTpOptionalAttributesPackage OID: ts32-744Package 40600	--
signRouteSetNePartMandatoryAttributesPackage	Name: signRouteSetNePartMandatoryAttributesPackage OID: ts32-744Package 50600	--
signRouteNePartMandatoryAttributesPackage	Name: signRouteNePartMandatoryAttributesPackage OID: ts32-744Package 60600	--
Actions		
--	--	--
Notifications		
--	--	--
Attributes		

adjPc	Name: adjPc OID: ts32-744Attribute 90600	--
destinationPc	Name: destinationPc OID: ts32-744Attribute 190600	--
fixedPriority	Name: fixedPriority OID: ts32-744Attribute 230600	--
linkTpStatus	Name: linkTpStatus OID: ts32-744Attribute 160600	--
loadsharingInformationRouteSetNePart	Name: loadsharingInformationRouteSetNePart OID: ts32-744Attribute 20600	--
maxCapacityLS	Name maxCapacityLS OID: ts32-744Attribute 100600	--
maxCapacitySL	Name: maxCapacitySL OID: ts32-744Attribute 110600	--
mtpSignPointId	Name: mtpSignPointId OID: ts32-744Attribute 10600	--
networkIndicator	Name: networkIndicator OID: ts32-744Attribute 30600	--
pointCode	Name: pointCode OID: ts32-744Attribute 20600	--
pointCodeLength	Name: pointCodeLength OID: ts32-744Attribute 40600	--
relatedObjects	Name: relatedObjects OID: ts32-744Attribute 70600	--
signLinkType	Name: signLinkType OID: ts32-744Attribute170600	--
signLinkSetTpId	Name: signLinkSetTpId OID: ts32-744Attribute 80600	--
signLinkSetTpPointer	Name: signLinkSetTpPointer OID: ts32-744Attribute220600	--
signLinkTpId	Name: signLinkTpId OID: ts32-744Attribute 120600	--
signRouteSetNePartId	Name: signRouteSetNePartId OID: ts32-744Attribute 180600	--
signRouteNePartId	Name: signRouteNePartId OID: ts32-744Attribute 210600	--
slCode	Name: slCode OID: ts32-744Attribute 130600	--
slsCodeCurrentList	Name: slsCodeCurrentList OID: ts32-744Attribute 150600	--
slsCodeNormalList	Name: slsCodeNormalList OID: ts32-744Attribute 140600	--
spType	Name: spType OID: ts32-744Attribute 50600	--
userLabel	Name: userLabel OID: ts32-744Attribute 60600	--
Parameters		
--	--	--
Name Bindings		
signLinkSetTp-mtpSignPoint	Name: signLinkSetTp-mtpSignPoint OID: ts32-744NameBinding 10600	--
signRouteSetNePart-mtpSignPoint	Name: signRouteSetNePart-mtpSignPoint OID: ts32-744NameBinding 20600	--
signRouteNePart-signRouteSetNePart	Name: signRouteNePart-signRouteSetNePart OID: ts32-744NameBinding 30600	--
signLinkTp-signLinkSetTp	Name: signLinkTp-signLinkSetTp OID: ts32-744NameBinding 40600	--

Annex B (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
Dec 2004	S_26	SP-040819	--	--	Submitted to SA#26 for Approval	1.0.0	6.0.0

History

Document history		
V6.0.0	December 2004	Publication