ETSI TS 132 732 V9.0.0 (2010-02)

Technical Specification

Digital cellular telecommunications system (Phase 2+);
Universal Mobile Telecommunications System (UMTS);
LTE;
Telecommunication management;
IP Multimedia Subsystem (IMS) Network Resource Model (NRM)
Integration Reference Point (IRP);
Information Service (IS)
(3GPP TS 32.732 version 9.0.0 Release 9)

Reference
RTS/TSGS-0532732v900

Keywords
GSM, LTE, UMTS

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Foreword

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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

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  - 2 presented to TSG for approval;
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- 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:

32.731: "IP Multimedia Subsystem (IMS) Network Resource Model (NRM) Integration Reference Point (IRP): Requirements".

32.732: "IP Multimedia Subsystem (IMS) Network Resource Model (NRM) Integration Reference Point (IRP): Information Service (IS)".

32.733: "IP Multimedia Subsystem (IMS) Network Resource Model (NRM) Integration Reference Point (IRP): Common Object Request Broker Architecture (CORBA) Solution Set (SS)".

32.735: "IP Multimedia Subsystem (IMS) Network Resource Model (NRM) Integration Reference Point (IRP): Bulk CM eXtensible Markup Language (XML) file format definition".

1 Scope

The present document is part of an Integration Reference Point (IRP) named IMS Network Resource Model (NRM) IRP, through which an IRPAgent can communicate configuration management information to one or several IRPManagers concerning IMS resources. The IMS NRM IRP comprises a set of specifications defining Requirements, a protocol neutral Information Service and one or more Solution Set(s).

The present document specifies the protocol neutral IMS NRM IRP: Information Service (IS). It reuses relevant parts of the Generic NRM IRP: IS in 3GPP TS 32.622 [9], either by direct reuse or sub-classing, and in addition to that defines IMS specific Information Object Classes.

Finally, in order to access the information defined by this NRM, an Interface IRP is needed, such as the Basic CM IRP in 3GPP TS 32.602 [10]. However, which Interface IRP that is applicable is outside the scope of the present document.

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 32.662: "Telecommunication management; Configuration Management (CM); Kernel CM IRP Information Service (IS)".

[4] 3GPP TS 32.150: "Telecommunication management; Integration Reference Point (IRP) Concept and definitions".

[5] 3GPP TS 32.111-2: "Telecommunication management; Fault Management; Part 2: Alarm Integration Reference Point: Information Service (IS)".

[6] 3GPP TS 32.300: "Telecommunication management; Configuration Management (CM); Name convention for Managed Objects".

[7] 3GPP TS 32.600: "Telecommunication management; Configuration Management (CM); Concept and high-level requirements".

[8] 3GPP TS 23.002: "Network architecture".

[9] 3GPP TS 32.622: "Telecommunication management; Configuration Management (CM); Generic network resources Integration Reference Point (IRP): Network Resource Model (NRM)".

[10] 3GPP TS 32.602: "Telecommunication management; Configuration Management (CM); Basic Configuration Management Integration Reference Point (IRP): Information Service (IS)".

[11] 3GPP TS 32.632: "Telecommunication management; Configuration Management (CM); Core network resources Integration Reference Point (IRP): Network Resource Model (NRM)".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in 3GPP TS 32.101 [1], 3GPP TS 32.102 [2], 3GPP TS 32.600 [7] and the following apply:

Association: In general it is used to model relationships between Managed Objects. Associations can be implemented in several ways, such as:

(1) name bindings;

(2) reference attributes; and

(3) association objects.

This IRP stipulates that containment associations shall be expressed through name bindings, but it does not stipulate the implementation for other types of associations as a general rule. These are specified as separate entities in the object models (UML diagrams).

Information Object Class (IOC): See 3GPP TS 32.150 [4].

Managed Element (ME): an instance of the Information Object Class `ManagedElement` defined in 3GPP TS 32.622 [9].

Managed Object (MO): in the context of the present document, a Managed Object (MO) is a software object that encapsulates the manageable characteristics and behaviour of a particular Network Resource. The MO is an instance of a MO class defined in an NRM. This class, called **Information Object Class (IOC)** has *attributes* that provide information used to characterize the objects that belong to the class (the term "attribute" is taken from TMN and corresponds to a "property" according to CIM). Furthermore, the IOC can have *operations* that represent the behaviour relevant for that class (the term "operation" is taken from TMN and corresponds to a "method" according to CIM). The IOC may support the emission of *notifications* that provide information about an event occurrence within a network resource.

Network Resource Model (NRM): a model representing the actual managed telecommunications network resources that a System is providing through the subject IRP
An NRM identifies and describes IOCs, their associations, attributes and operations.

3.2 Abbreviations

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

AUC	AUthentication Centre
AS	Application Server
BG	Border Gateway
BGCF	Breakout Gateway Control Function
BS	Billing System
CBC	Cell Broadcast Center
CGF	Charging Gateway Functionality
CN	Core Network
DN	Distinguished Name (see 3GPP TS 32.300 [6])
EIR	Equipment Identity Register
EM	Element Manager
FM	Fault Management
FNR	Flexible Number Register
GDMO	Guidelines for the Definition of Managed Objects
GGSN	Gateway GPRS Support Node
GMLC	Gateway Mobile Location Center
GMSC Server	Gateway MSC Server
GMSC	Gateway MSC
GPRS	General Packet Radio System

ICSCF	Interrogating Call Session Control Function
IDL	Interface Definition Language
IMS	IP Multimedia Subsystem
IMSMGW	IMS Media Gateway
IOC	Information Object Class
IRP	Integration Reference Point
ISO	International Standards Organization
IWF	InterWorking Function
ME	Managed Element
MGCF	Media Gateway Control Function
MGW	Media GateWay
MNP-SRF	Mobile Number Portability-Signalling Relay Function
MO	Managed Object
MOI	Managed Object Instance
MRFC	Multimedia Resource Function Controller
MRFP	Call Session Control Function Processor
MSC Server	Mobile Services Switching Centre Server
MSC	Mobile Services Switching Centre
NE	Network Element
NM	Network Manager
NPDB	Number Portability DataBase
NR	Network Resource
NRM	Network Resource Model
OSI	Open Systems Interconnection
PCSCF	Proxy Call Session Control Function
PM	Performance Management
RDN	Relative Distinguished Name (see 3GPP TS 32.300 [6])
SCF	Service Control Function
SCSCF	Serving Call Session Control Function
SGSN	Serving GPRS Support Node
SGW	Signalling GateWay
SLF	Subscription Locator Function
SMLC	Serving Mobile Location Center
SMS	Short Message Service
SMS-GMSC	SMS Gateway MSC
SMS-IWMSC	SMS InterWorking MSC
SRF	Specialized Resource Function
SSF	Service Switching Function
TMN	Telecommunications Management Network
UML	Unified Modelling Language
UMTS	Universal Mobile Telecommunications System
UTRAN	Universal Terrestrial Radio Access Network
VLR	Visitor Location Register

4 System overview

4.1 Compliance rules

The following defines the meaning of Mandatory and Optional IOC attributes and associations between IOCs, in Solution Sets to the IRP defined by the present document:

- The IRPManager shall support all mandatory attributes/associations. The IRPManager shall be prepared to receive information related to mandatory as well as optional attributes/associations without failure; however the IRPManager does not have to support handling of the optional attributes/associations.
- The IRPAgent shall support all mandatory attributes/associations. It may support optional attributes/associations.

An IRPAgent that incorporates vendor-specific extensions shall support normal communication with a 3GPP SA5-compliant IRPManager with respect to all Mandatory and Optional information object classes, attributes and associations without requiring the IRPManager to have any knowledge of the extensions.

Given that:

- rules for vendor-specific extensions remain to be fully specified; and
- many scenarios under which IRPManager and IRPAgent interwork may exist;

it is recognized that the IRPManager, even though it is not required to have knowledge of vendor-specific extensions, may be required to be implemented with an awareness that extensions can exist and behave accordingly.

5 Modelling approach

The modelling approach is described in the Generic Network Resources IRP: NRM (3GPP TS 32.622 [9]).

It should be noted that this model allows for combined managed element functionality, where more than one "function IOCs' (inherited from `ManagedFunction`) modelling more specific managed element functionality may be contained in the `ManagedElement` IOC.

6 Information Object Classes

6.1 Imported information entities and local labels

Label reference	Local label
32.622 [9], information object class, `Link`	`Link`
32.622 [9], information object class, `ManagedElement`	`ManagedElement`

6.2 Class diagram

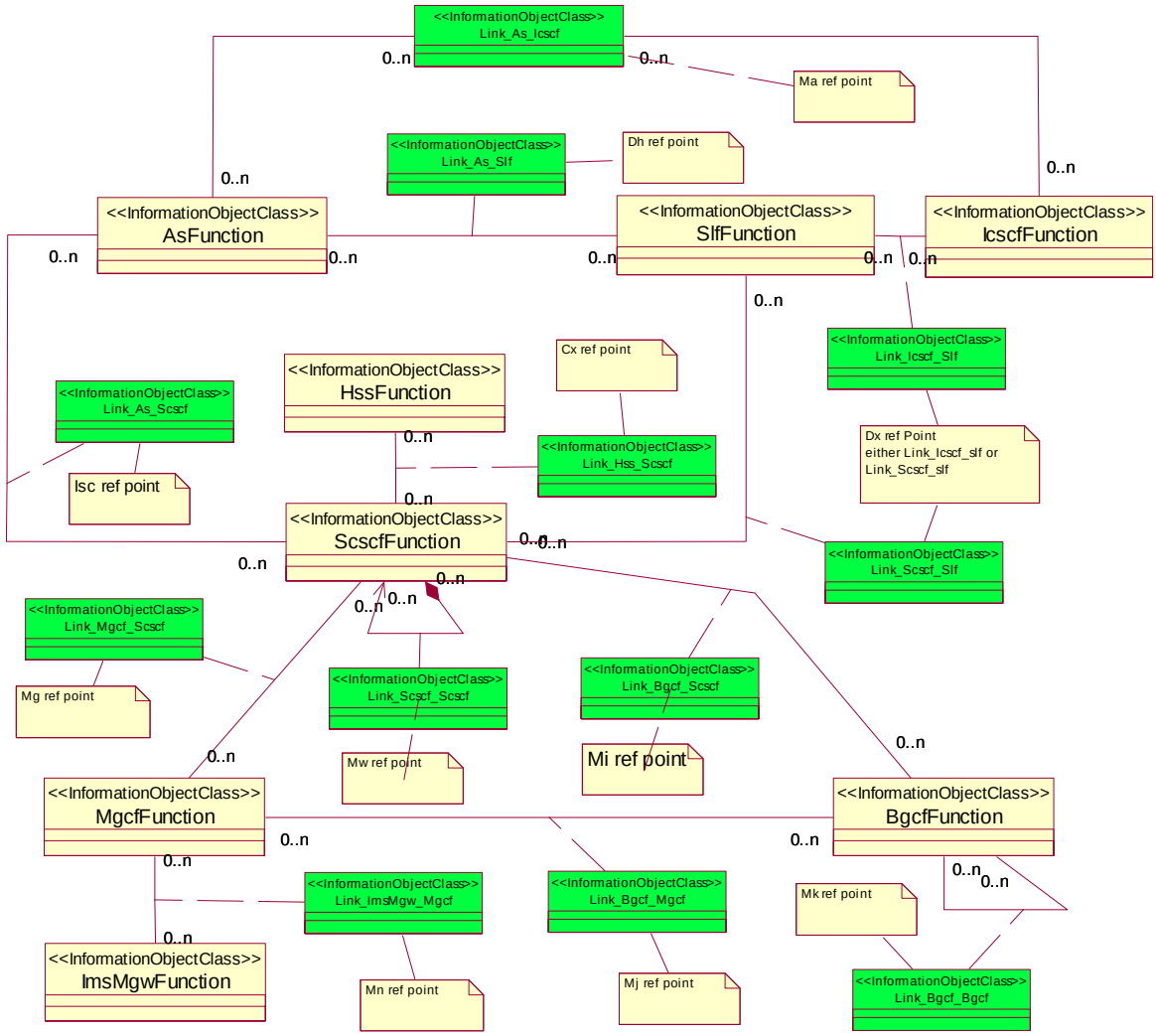
6.2.1 Attributes and relationships

This clause depicts the set of IOCs that encapsulate information relevant for this service. This clause provides the overview of all information object classes in UML. Subsequent clauses provide more detailed specification of various aspects of these information object classes.

The figures below show the containment/naming hierarchy and the associations of the information object classes defined in the present document.

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

Figure 6.2.1: IMS NRM Containment/Naming relationships



Note: If this NRM has interfaces (Link IOCs) modelled to IOCs in other NRM(s), the Link IOC definitions may be defined in the other NRM(s) and need to be considered in implementations. For example, see **`Link_Bgcf_Mgcf and Link_Cscf_Mgcf`** in CN NRM TS 32.632 [11].

Figure 6.2.1.1: IMS NRM `Link` Associations 1

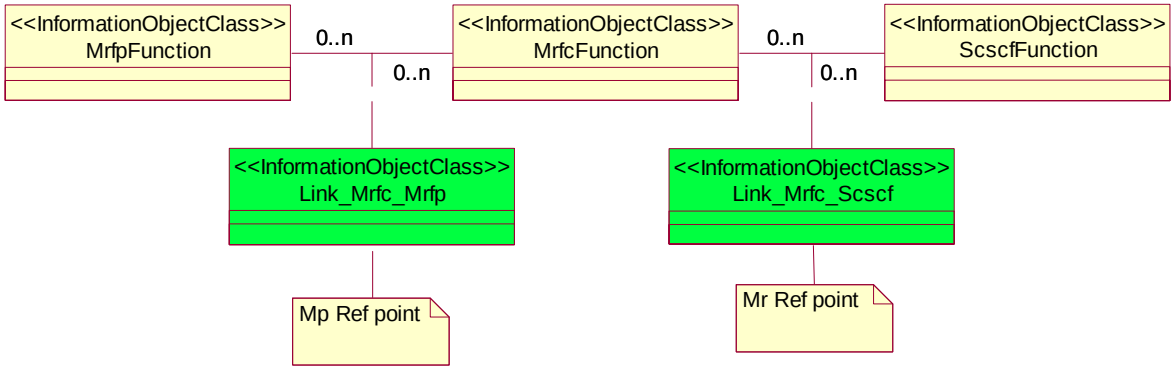


Figure 6.2.1.2: IMS NRM `Link` Associations 2

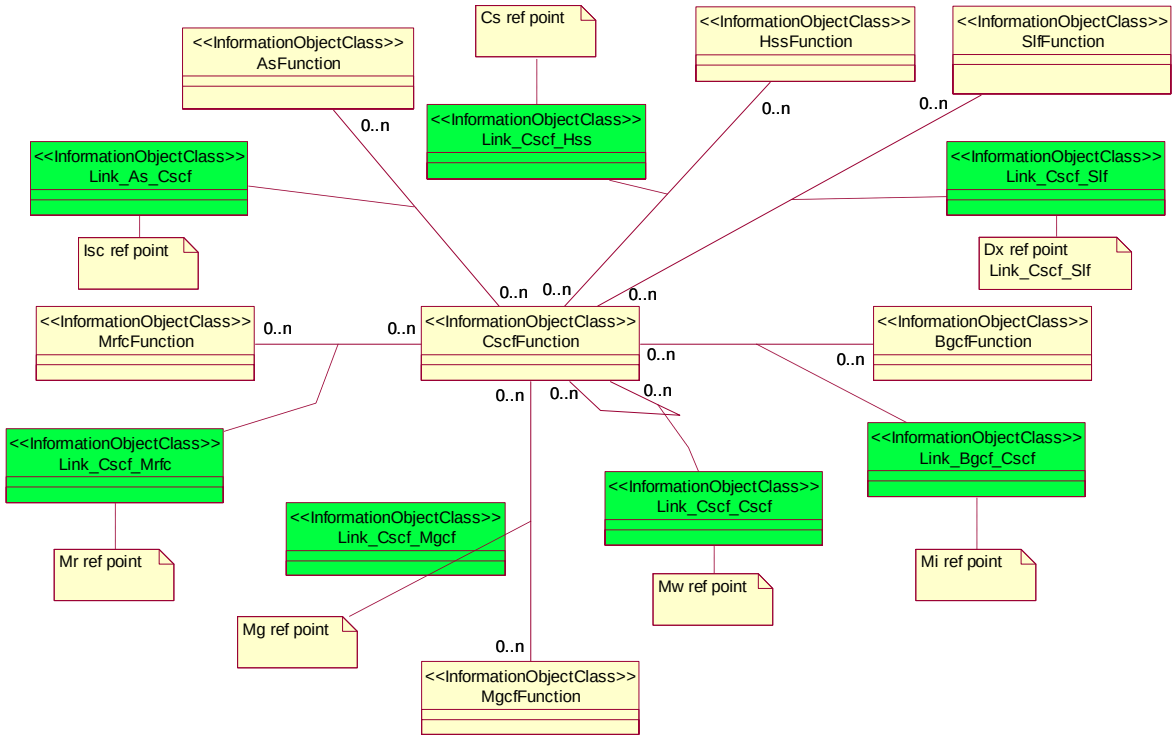


Figure 6.2.1.3: IMS NRM `Link` Associations 3

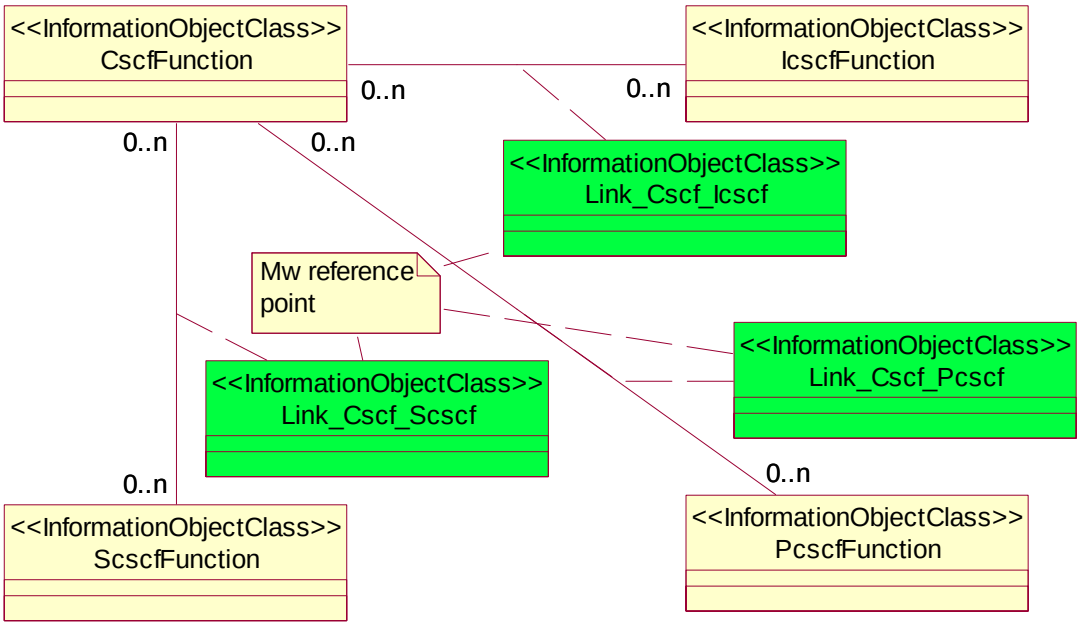


Figure 6.2.1.4: IMS NRM `Link` Associations 4

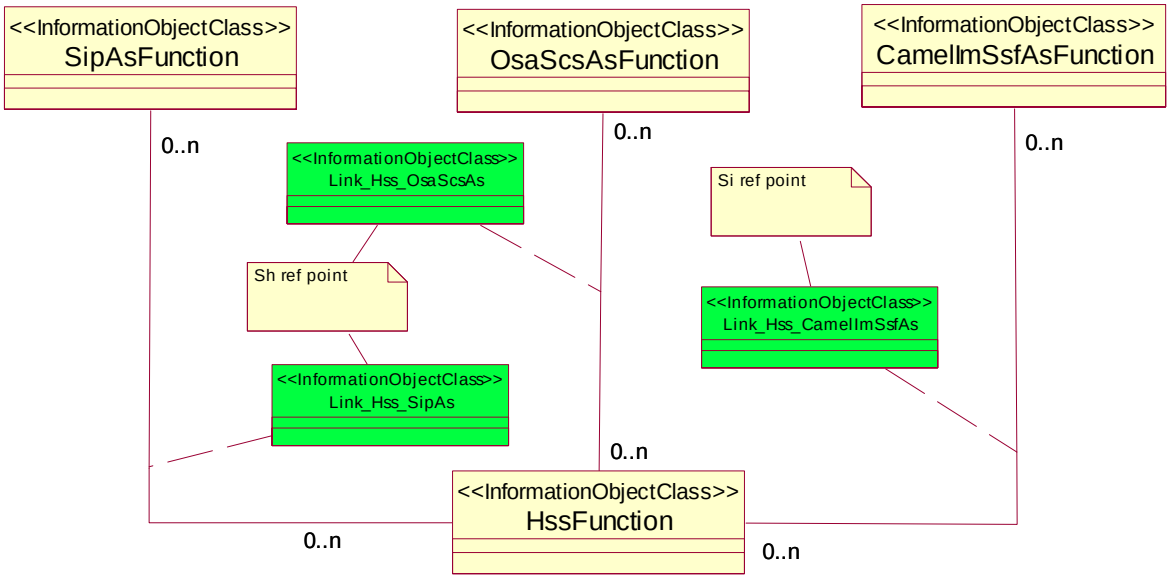


Figure 6.2.1.5: IMS NRM `Link` Associations 5

6.2.2 Inheritance

This clause depicts the inheritance relationships that exist between IOCs.

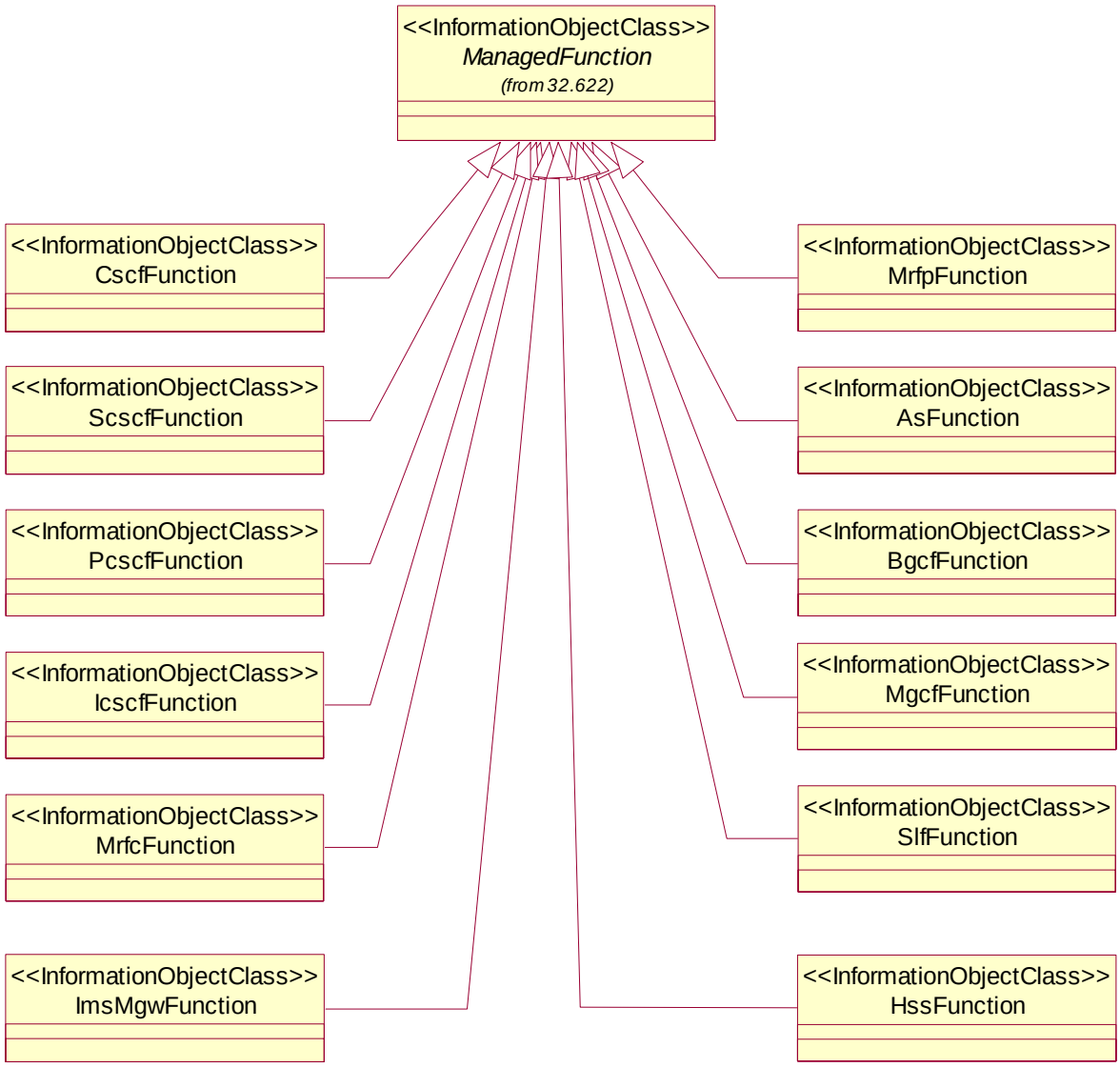


Figure 6.2.2.1: IMS NRM Inheritance Hierarchy 1

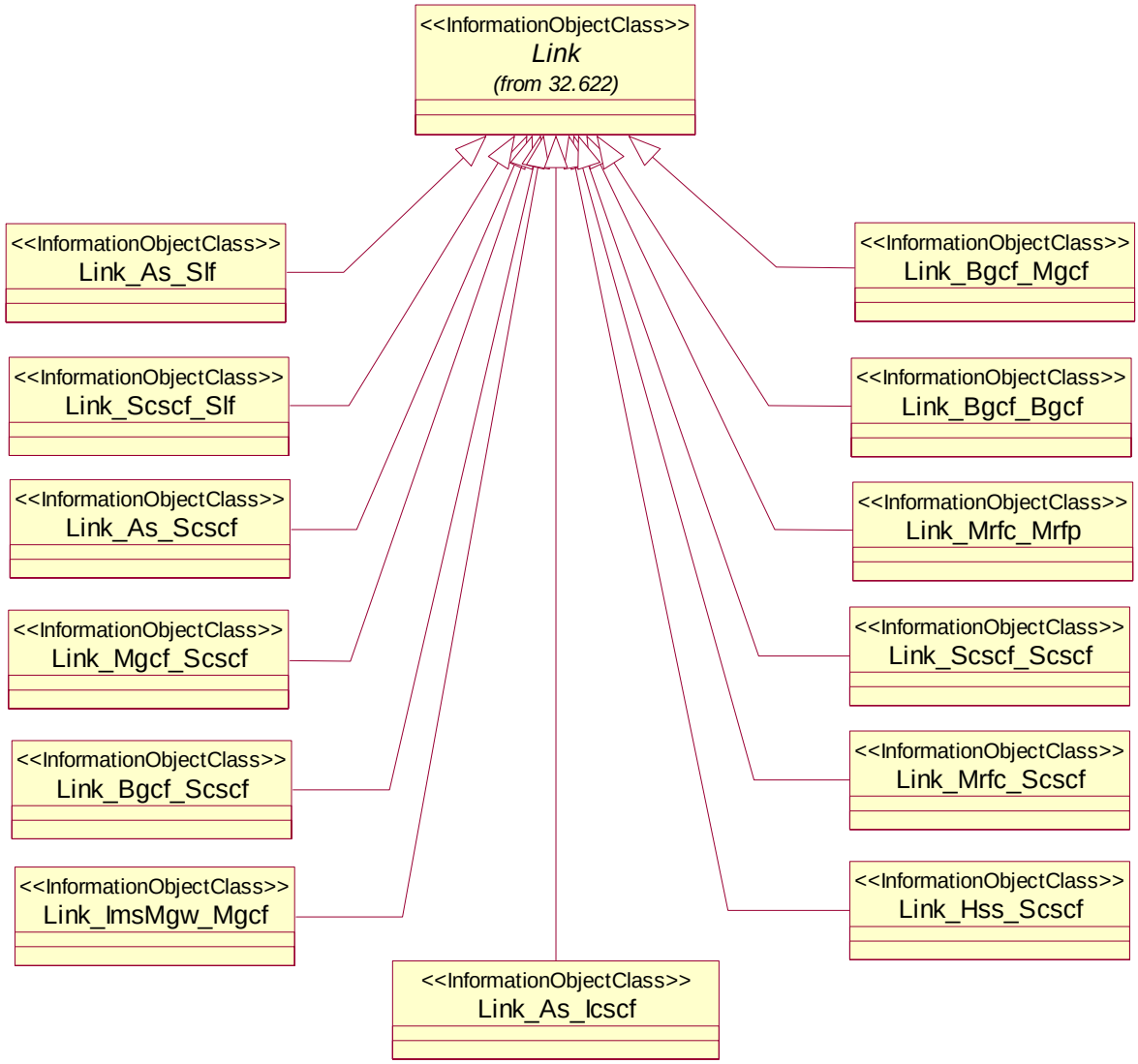


Figure 6.2.2.2: IMS NRM Inheritance Hierarchy 2

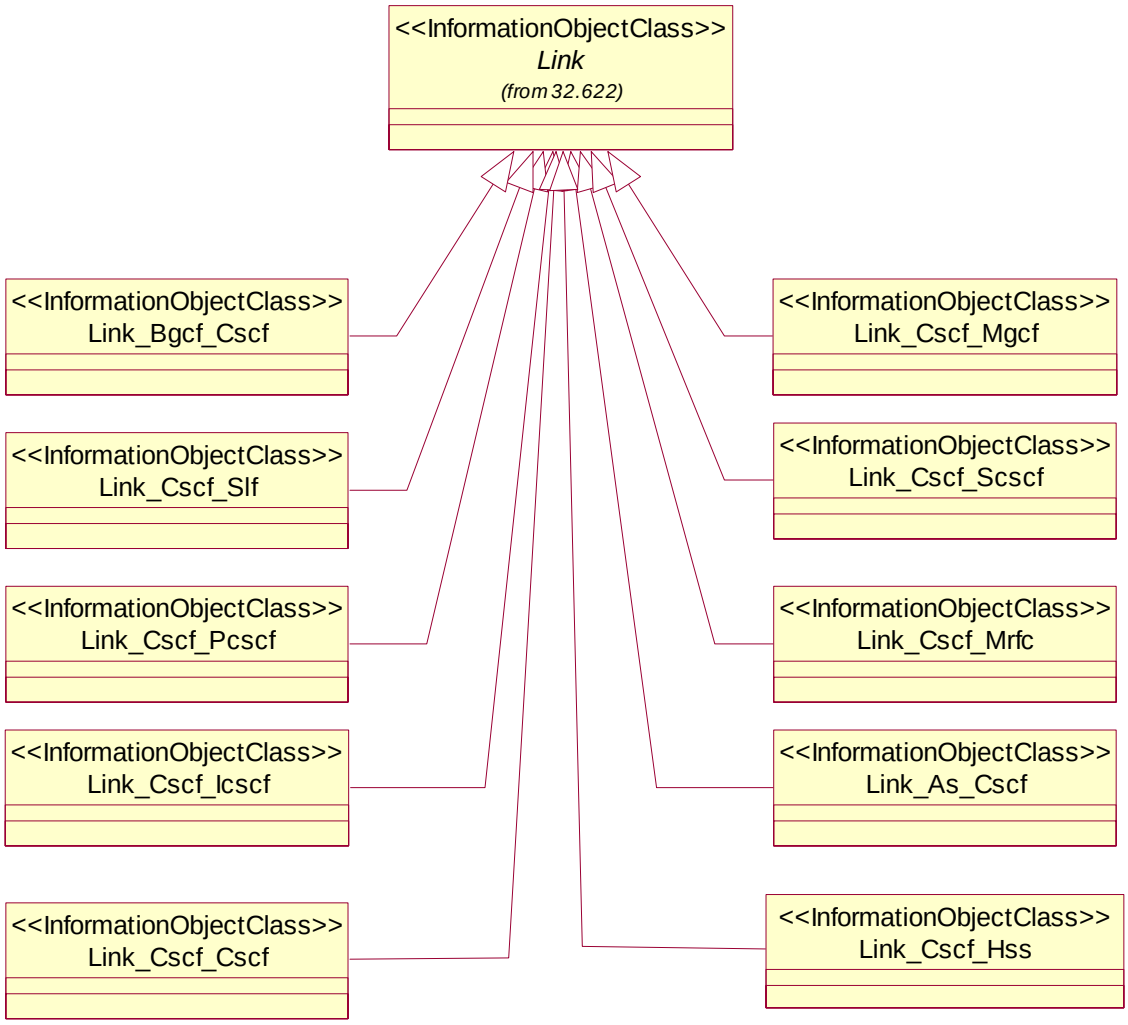


Figure 6.2.2.3: IMS NRM Inheritance Hierarchy 3

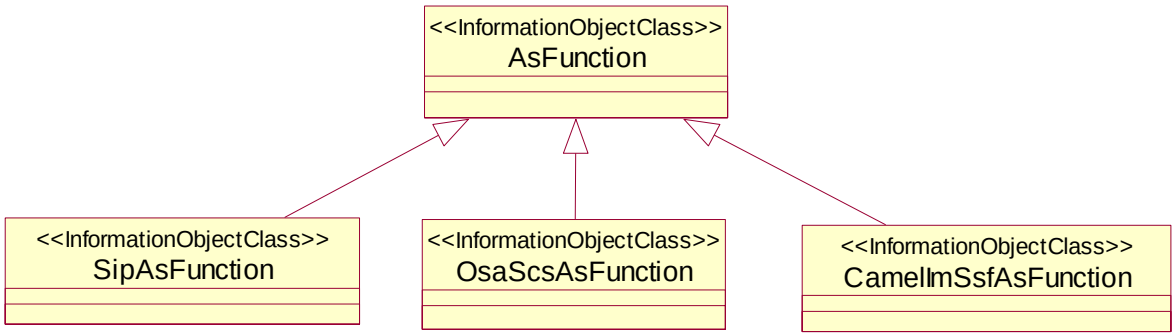


Figure 6.2.2.4: IMS NRM Inheritance Hierarchy 4

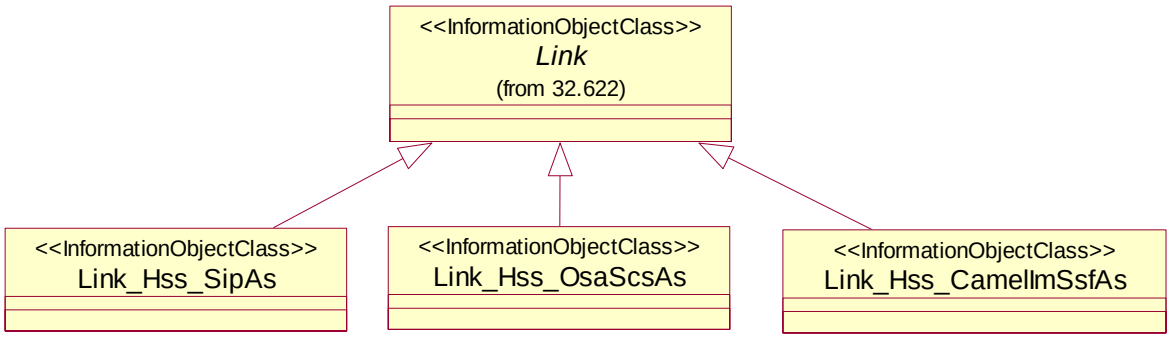


Figure 6.2.2.5: IMS NRM Inheritance Hierarchy 5

6.3 Information object class definitions

6.3.1 AsFunction

6.3.1.1 Definition

This IOC represents AS functionality. For more information about the AS, see 3GPP TS 23.002 [8]. AsFunction may be instantiated when a specific Application Server type is not already represented with an IOC subclassed from this IOC in this specification. If the Application Server type is already represented by an IOC in this specification, then it should instead be used. In the case a subclassed IOC is utilized, the AsFunction relationships (including link objects) are carried forward to the sub-classed IOC through inheritance.

6.3.1.2 Attributes

Attribute name	Visibility	Support Qualifier	Read Qualifier	Write Qualifier
asFunctionId	+	M	M	-
linkList	+	O	M	-

6.3.1.3 Notifications

The common notifications defined in subclause 6.6 are valid for this IOC, without exceptions or additions.

6.3.2 BgcfFunction

6.3.2.1 Definition

This IOC represents BGCF functionality. For more information about the BGCF, see 3GPP TS 23.002 [8].

6.3.2.2 Attributes

Attribute name	Visibility	Support Qualifier	Read Qualifier	Write Qualifier
bgcfFunctionId	+	M	M	-
linkList	+	O	M	-

6.3.2.3 Notifications

The common notifications defined in subclause 6.6 are valid for this IOC, without exceptions or additions.

6.3.3 CamelImSsfAsFunction

6.3.3.1 Definition

This IOC represents CAMEL IM-SSF functionality. For more information about the CAMEL IM-SSF AS, see 3GPP TS 23.002 [8].

6.3.3.2 Attributes

Void.

6.3.4 CscfFunction

6.3.4.1 Definition

This IOC represents CSCF functionality. For more information about the CSCF, see 3GPP TS 23.002 [8].
CscfFunction shall not be instantiated to be name-contained by a ManagedElement instance that contains any of the role based CSCFs, namely PcscfFunction, IcscfFunction or ScscfFunction.

6.3.4.2 Attributes

Attribute name	Visibility	Support Qualifier	Read Qualifier	Write Qualifier
cscfFunctionId	+	M	M	-
linkList	+	O	M	-

6.3.4.3 Notifications

The common notifications defined in subclause 6.6 are valid for this IOC, without exceptions or additions.

6.3.5 HssFunction

6.3.5.1 Definition

This IOC represents HSS functionality. For more information about the HSS, see 3GPP TS 23.002 [8].

6.3.5.2 Attributes

Attribute name	Visibility	Support Qualifier	Read Qualifier	Write Qualifier
hssFunctionId	+	M	M	-
linkList	+	O	M	-

6.3.5.3 Notifications

The common notifications defined in subclause 6.6 are valid for this IOC, without exceptions or additions.

6.3.6 IcscfFunction

6.3.6.1 Definition

This IOC represents I-CSCF functionality. For more information about the I-CSCF, see 3GPP TS 23.002 [8].

6.3.6.2 Attributes

Attribute name	Visibility	Support Qualifier	Read Qualifier	Write Qualifier
icscfFunctionId	+	M	M	-
linkList	+	O	M	-

6.3.6.3 Notifications

The common notifications defined in subclause 6.6 are valid for this IOC, without exceptions or additions.

6.3.7 ImsMgwFunction

6.3.7.1 Definition

This IOC represents IMS-MGW functionality. For more information about IMS-MGW, see 3GPP TS 23.002 [8].

6.3.7.2 Attributes

Attribute name	Visibility	Support Qualifier	Read Qualifier	Write Qualifier
imsMgwFunctionId	+	M	M	-
linkList	+	O	M	-

6.3.7.3 Notifications

The common notifications defined in subclause 6.6 are valid for this IOC, without exceptions or additions.

6.3.8 MgcfFunction

6.3.8.1 Definition

This IOC represents MGCF functionality. For more information about the MGCF, see 3GPP TS 23.002 [8].

6.3.8.2 Attributes

Attribute name	Visibility	Support Qualifier	Read Qualifier	Write Qualifier
mgcfFunctionId	+	M	M	-
linkList	+	O	M	-

6.3.8.3 Notifications

The common notifications defined in subclause 6.6 are valid for this IOC, without exceptions or additions.

6.3.9 MrfcFunction

6.3.9.1 Definition

This IOC represents MRFC functionality. For more information about the MRFC, see 3GPP TS 23.002 [8].

6.3.9.2 Attributes

Attribute name	Visibility	Support Qualifier	Read Qualifier	Write Qualifier
mrfcFunctionId	+	M	M	-
linkList	+	O	M	-

6.3.9.3 Notifications

The common notifications defined in subclause 6.6 are valid for this IOC, without exceptions or additions.

6.3.10 MrfpFunction

6.3.10.1 Definition

This IOC represents MRFP functionality. For more information about the MRFP, see 3GPP TS 23.002 [8].

6.3.10.2 Attributes

Attribute name	Visibility	Support Qualifier	Read Qualifier	Write Qualifier
mrfpFunctionId	+	M	M	-
linkList	+	O	M	-

6.3.10.3 Notifications

The common notifications defined in subclause 6.6 are valid for this IOC, without exceptions or additions.

6.3.11 OsaScsAsFunction

6.3.11.1 Definition

This IOC represents OSA Application Server (Service Capability Server) functionality. For more information about the OSA Service Capability Server, see 3GPP TS 23.002 [8].

6.3.11.2 Attributes

Void.

6.3.12 PcscfFunction

6.3.12.1 Definition

This IOC represents P-CSCF functionality. For more information about the P-CSCF, see 3GPP TS 23.002 [8].

6.3.12.2 Attributes

Attribute name	Visibility	Support Qualifier	Read Qualifier	Write Qualifier
pcscfFunctionId	+	M	M	-
linkList	+	O	M	-

6.3.12.3 Notifications

The common notifications defined in subclause 6.6 are valid for this IOC, without exceptions or additions.

6.3.13 ScscfFunction

6.3.13.1 Definition

This IOC represents S-CSCF functionality. For more information about the S-CSCF, see 3GPP TS 23.002 [8].

6.3.13.2 Attributes

Attribute name	Visibility	Support Qualifier	Read Qualifier	Write Qualifier
scscfFunctionId	+	M	M	-
linkList	+	O	M	-

6.3.13.3 Notifications

The common notifications defined in subclause 6.6 are valid for this IOC, without exceptions or additions.

6.3.14 SipAsFunction

6.3.14.1 Definition

This IOC represents SIP AS functionality. For more information about the SIP AS, see 3GPP TS 23.002 [8].

6.3.14.2 Attributes

Void.

6.3.15 SlfFunction

6.3.15.1 Definition

This IOC represents SLF functionality. For more information about the SLF, see 3GPP TS 23.002 [8].

6.3.15.2 Attributes

Attribute name	Visibility	Support Qualifier	Read Qualifier	Write Qualifier
slfFunctionId	+	M	M	-
linkList	+	O	M	-

6.3.15.3 Notifications

The common notifications defined in subclause 6.6 are valid for this IOC, without exceptions or additions.

6.3.16 Reserved for Future Use

...

6.3.50 Reserved for Future Use

6.3.51 Link_As_Cscf

6.3.51.1 Definition

This IOC models the Isc reference point as defined in TS 23.002 [8].

6.3.52 Link_As_Icscf

6.3. 52.1 Definition

This IOC models the Ma reference point as defined in TS 23.002 [8].

6.3.53 Link_As_Scscf

6.3.53.1 Definition

This IOC models the Isc reference point as defined in TS 23.002 [8].

6.3.54 Link_As_Slf

6.3.54.1 Definition

This models the Dh reference point as defined in TS 23.002 [8].

6.3.55 Link_Bgcf_Bgcf

6.3.55.1 Definition

This models the Mk reference point as defined in TS 23.002 [8].

6.3.56 Link_Bgcf_Cscf

6.3.56.1 Definition

This models the Mi reference point as defined in TS 23.002 [8].

6.3.57 Link_Bgcf_Mgcf

6.3.57.1 Definition

This models the Mj reference point as defined in TS 23.002 [8].

6.3.58 Link_Bgcf_Scscf

6.3.58.1 Definition

This models the Mi reference point as defined in TS 23.002 [8].

6.3.59 Link_Cscf_Cscf

6.3.59.1 Definition

This models the Mw reference point as defined in TS 23.002 [8].

6.3.60 Link_Cscf_Hss

6.3.60.1 Definition

This IOC models the Cx reference point as defined in TS 23.002 [8].

6.3.61 Link_Cscf_Icscf

6.3.61.1 Definition

This models the Mw reference point as defined in TS 23.002 [8].

6.3.62 Link_Cscf_Mgcf

6.3.62.1 Definition

This IOC models the Mg reference point as defined in TS 23.002 [8].

6.3.63 Link_Cscf_Mrfc

6.3.63.1 Definition

This IOC models the Mr reference point as defined in TS 23.002 [8].

6.3.64 Link_Cscf_Pcscf

6.3.64.1 Definition

This models the Mw reference point as defined in TS 23.002 [8].

6.3.65 Link_Cscf_Scscf

6.3.65.1 Definition

This models the Mw reference point as defined in TS 23.002 [8].

6.3.66 Link_Cscf_Slf

6.3.66.1 Definition

This IOC models the Dx reference point as defined in TS 23.002 [8].

6.3.67 Link_Hss_CamelImSsfAs

6.3.67.1 Definition

This IOC models the Si reference point between CAMEL Application Server (IM-SSF) and HSS as defined in TS 23.002 [8].

6.3.68 Link_Hss_OsaScsAs

6.3.68.1 Definition

This IOC models the Sh reference point between OSA Application Server (Service Capability Server) and HSS as defined in TS 23.002 [8].

6.3.69 Link_Hss_Scscf

6.3.69.1 Definition

This IOC models the Cx reference point as defined in TS 23.002 [8].

6.3.70 Link_Hss_SipAs

6.3.70.1 Definition

This IOC models the Sh reference point between SIP Application Server and HSS as defined in TS 23.002 [8].

6.3.71 Link_Icscf_Slf

6.3.71.1 Definition

This models the Dx reference point as defined in TS 23.002 [8].

6.3.72 Link_ImsMgw_Mgcf

6.3.72.1 Definition

This models the Mn reference point as defined in TS 23.002 [8].

6.3.73 Link_Mgcf_Scscf

6.3.73.1 Definitions

This models the Mg reference point as defined in TS 23.002 [8].

6.3.74 Link_Mrfc_Mrfp

6.3.74.1 Definition

This IOC models the Mp reference point as defined in TS 23.002 [8].

6.3.75 Link_Mrfc_Scscf

6.3.75.1 Definition

This IOC models the Mr reference point as defined in TS 23.002 [8].

6.3.76 Link_Scscf_Scscf

6.3.76.1 Definition

This models the Dh reference point as defined in TS 23.002 [8].

6.3.77 Link_Scscf_Slf

6.3.77.1 Definition

This IOC models the Dx reference point as defined in TS 23.002 [8].

6.4 Information relationship definitions

In this version of the present document there are no information relationship definitions.

6.5 Information attribute definitions

6.5.1 Definition and legal values

Attribute Name	Definition	Legal Values
asFunctionId	An attribute whose "name+value" can be used as an RDN when naming an instance of the IOC. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
bgcfFunctionId	An attribute whose "name+value" can be used as an RDN when naming an instance of the IOC. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
cscfFunctionId	An attribute whose "name+value" can be used as an RDN when naming an instance of the IOC. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
icscfFunctionId	An attribute whose "name+value" can be used as an RDN when naming an instance of the IOC. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
imsMgwFunctionId	An attribute whose "name+value" can be used as an RDN when naming an instance of the IOC. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
linkList	An attribute containing all of the related link object Distinguished Names for the object instance, if any.	
mgcfFunctionId	An attribute whose "name+value" can be used as an RDN when naming an instance of the IOC. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
mrfcFunctionId	An attribute whose "name+value" can be used as an RDN when naming an instance of the IOC. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
mrfpFunctionId	An attribute whose "name+value" can be used as an RDN when naming an instance of the IOC. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
pcscfFunctionId	An attribute whose "name+value" can be used as an RDN when naming an instance of the IOC. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
scscfFunctionId	An attribute whose "name+value" can be used as an RDN when naming an instance of the IOC. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
slfFunctionId	An attribute whose "name+value" can be used as an RDN when naming an instance of the IOC. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
hssFunctionId	An attribute whose "name+value" can be used as an RDN when naming an instance of the IOC. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	

6.5.2 Constraints

Name	Definition
-	-

6.6 Common notifications

This subclause contains a list of notifications that can be referred to by any IOC defined by this IRP specification. These notifications are only applicable to IOCs referring to this subclause.

Name	Qualifier	Notes
notifyAckStateChanged	See Alarm IRP (3GPP TS 32.111-2 [5])	
notifyAlarmListRebuilt	See Alarm IRP (3GPP TS 32.111-2 [5])	
notifyChangedAlarm	See Alarm IRP (3GPP TS 32.111-2 [5])	
notifyClearedAlarm	See Alarm IRP (3GPP TS 32.111-2 [5])	
notifyComments	See Alarm IRP (3GPP TS 32.111-2 [5])	
notifyNewAlarm	See Alarm IRP (3GPP TS 32.111-2 [5])	
notifyPotentialFaultyAlarmList	See Alarm IRP (3GPP TS 32.111-2 [5])	
notifyObjectCreation	See Kernel CM IRP (3GPP TS 32.662 [3])	
notifyObjectDeletion	See Kernel CM IRP (3GPP TS 32.662 [3])	
notifyAttributeValueChange	See Kernel CM IRP (3GPP TS 32.662 [3])	

6.7 Particular information configurations

Not applicable.

Annex A (informative): Change history

Change history								
Date	**TSG #**	**TSG Doc.**	**CR**	**R**	**Subject/Comment**	**Cat**	**Old**	**New**
Sep 2006	SA_33	SP-060563	--	--	Submitted to TSG SA #33 for Information	--	--	1.0.0
Dec 2006	SA_34	SP-060750	--	--	Submitted to TSG SA #34 for Approval	--	2.0.0	7.0.0
Mar 2007	SA_35	SP-070047	0001	--	Add HssFunction to IMS NRM	F	7.0.0	7.1.0
Jun 2007	SA_36	SP-070276	0002	--	Change in cardinalities of IMS managed functions	F	7.1.0	7.2.0
Jun 2007	SA_36	SP-070276	0003	--	Correct definitions of AsFunctions - Align with 23.002	F	7.1.0	7.2.0
Jun 2007	SA_36	SP-070276	0004	--	Add missing Link_As_Icscf to IMS NRM - Align with 23.002	F	7.1.0	7.2.0
Sep 2007	SA_37	SP-070612	0006	--	Add missing link attributes to IMS NRM - Align with 3GPP2	F	7.2.0	7.3.0
Sep 2007	SA_37	SP-070610	0005	--	Correct description of common notifications - Align with Rel-8 32.151 IRP IS Template	F	7.3.0	8.0.0
Jun 2008	SA_40	SP-080329	0007	--	Correction of the CamelImSsfAsFunction definition	F	8.0.0	8.1.0
Dec 2009	-	-	-	-	Update to Rel-9 version	--	8.1.0	9.0.0

History

Document history		
V9.0.0	February 2010	Publication