# ETSI TS 132 733 V8.0.0 (2009-01)

*Technical Specification*

**Digital cellular telecommunications system (Phase 2+);
Universal Mobile Telecommunications System (UMTS);
LTE;
Telecommunication management;
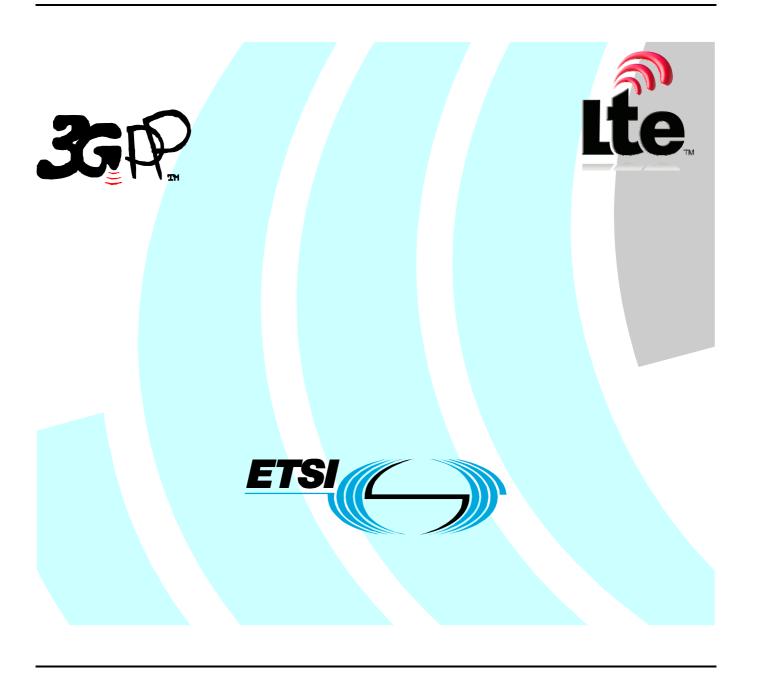IP Multimedia Subsystem (IMS) Network Resource Model (NRM)
Integration Reference Point (IRP):
Common Object Request Broker Architecture (CORBA)
Solution Set (SS)
(3GPP TS 32.733 version 8.0.0 Release 8)**

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Keywords
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# Contents

# Foreword

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# Introduction

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

> 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 purpose of this *IMS NRM IRP: CORBA Solution Set* is to define the mapping of the IRP Information Service (see TS 32.732 [3]) 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 32.732.

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

[4]     3GPP TS 32.303: "Telecommunication management; Configuration Management (CM); Notification Integration Reference Point (IRP): Common Object Request Broker Architecture (CORBA) Solution Set (SS)".

[5]     3GPP TS 32.623: "Telecommunication management; Configuration Management (CM); Generic Network Resources Integration Reference Point (IRP): Common Object Request Broker Architecture (CORBA) Solution Set (SS)".

# 3 Definitions and abbreviations

## 3.1 Definitions

For terms and definitions please refer to TS 32.101 [1], TS 32.102 [2] and TS 32.732 [3].

## 3.2 Abbreviations

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

| | |
|---|---|
| CORBA | Common Object Request Broker Architecture |
| DN | Distinguished Name |
| IDL | Interface Definition Language (OMG) |
| IOC | Information Object Class |
| IRP | Integration Reference Point |
| IS | Information Service |
| MGW | Media GateWay |
| MO | Managed Object |
| MOC | Managed Object Class |
| NRM | Network Resource Model |
| OMG | Object Management Group |
| SS | Solution Set |

# 4 Architectural features

The overall architectural feature of IMS NRM IRP is specified in TS 32.732[3].
This clause specifies features that are specific to the CORBA SS.

## 4.1 Notifications

Notifications are sent according to the Notification IRP: CORBA SS (see TS 32.303 [4]).

# 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 Information Object Class (IOC) mapping

### 5.2.1 IOC `AsFunction`

**Mapping from NRM IOC `AsFunction` attributes to SS equivalent MOC `AsFunction`**

| Attributes of IOC `AsFunction` in TS 32.732 [3] | SS Attributes | SS Type | Qualifier |
|---|---|---|---|
| asFunctionId | asFunctionId | string | Read-Only, M |
| linkList | linkList | GenericNetworkResourcesIRPSystem::AttributeTypes::LinkListSet | Read-Only, O |

### 5.2.2 IOC `BgcfFunction`

**Mapping from NRM IOC `BgcfFunction` attributes to SS equivalent MOC `BgcfFunction`**

| Attributes of IOC `BgcfFunction` in TS 32.732 [3] | SS Attributes | SS Type | Qualifier |
|---|---|---|---|
| bgcfFunctionId | bgcfFunctionId | string | Read-Only, M |
| linkList | linkList | GenericNetworkResourcesIRPSystem::AttributeTypes::LinkListSet | Read-Only, O |

### 5.2.3 IOC `CamelImSsfAsFunction`

Void.

### 5.2.4 IOC `CscfFunction`

**Mapping from NRM IOC `CscfFunction` attributes to SS equivalent MOC `CscfFunction`**

| Attributes of IOC `CscfFunction` in TS 32.732 [3] | SS Attributes | SS Type | Qualifier |
|---|---|---|---|
| cscfFunctionId | cscfFunctionId | string | Read-Only, M |
| linkList | linkList | GenericNetworkResourcesIRPSystem::AttributeTypes::LinkListSet | Read-Only, O |

## 5.2.5    IOC `HssFunction`

**Mapping from NRM IOC `HssFunction` attributes to SS equivalent MOC `HssFunction`**

| Attributes of IOC `HssFunction` in TS 32.732 [3] | SS Attributes | SS Type | Qualifier |
|---|---|---|---|
| hssFunctionId | hssFunctionId | string | Read-Only, M |
| linkList | linkList | GenericNetworkResourcesIRPSystem::AttributeTypes::LinkListSet | Read-Only, O |

## 5.2.6    IOC `IcscfFunction`

**Mapping from NRM IOC `IcscfFunction` attributes to SS equivalent MOC `IcscfFunction`**

| Attributes of IOC `IcscfFunction` in TS 32.732 [3] | SS Attributes | SS Type | Qualifier |
|---|---|---|---|
| icscfFunctionId | icscfFunctionId | string | Read-Only, M |
| linkList | linkList | GenericNetworkResourcesIRPSystem::AttributeTypes::LinkListSet | Read-Only, O |

## 5.2.7    IOC `ImsMgwFunction`

**Mapping from NRM IOC `ImsMgwFunction` attributes to SS equivalent MOC `ImsMgwFunction` attributes**

| Attributes of IOC `ImsMgwFunction` in TS 32.732 [3] | SS Attributes | SS Type | Qualifier |
|---|---|---|---|
| imsMgwFunctionId | imsMgwFunctionId | string | Read-Only, M |
| linkList | linkList | GenericNetworkResourcesIRPSystem::AttributeTypes::LinkListSet | Read-Only, O |

## 5.2.8    IOC `MgcfFunction`

**Mapping from NRM IOC `MgcfFunction` attributes to SS equivalent MOC `MgcfFunction`**

| Attributes of IOC `MgcfFunction` in TS 32.732 [3] | SS Attributes | SS Type | Qualifier |
|---|---|---|---|
| mgcfFunctionId | mgcfFunctionId | string | Read-Only, M |
| linkList | linkList | GenericNetworkResourcesIRPSystem::AttributeTypes::LinkListSet | Read-Only, O |

## 5.2.9    IOC `MrfcFunction`

**Mapping from NRM IOC `MrfcFunction` attributes to SS equivalent MOC `MrfcFunction`**

| Attributes of IOC `MrfcFunction` in TS 32.732 [3] | SS Attributes | SS Type | Qualifier |
|---|---|---|---|
| mrfcFunctionId | mrfcFunctionId | string | Read-Only, M |
| linkList | linkList | GenericNetworkResourcesIRPSystem::AttributeTypes::LinkListSet | Read-Only, O |

## 5.2.10   IOC `MrfpFunction`

**Mapping from NRM IOC `MrfpFunction` attributes to SS equivalent MOC `MrfpFunction`**

| Attributes of IOC `MrfpFunction` in TS 32.732 [3] | SS Attributes | SS Type | Qualifier |
|---|---|---|---|
| mrfpFunctionId | mrfpFunctionId | string | Read-Only, M |
| linkList | linkList | GenericNetworkResourcesIRPSystem::AttributeTypes::LinkListSet | Read-Only, O |

## 5.2.11   IOC `OsaScsAsFunction`

Void.

## 5.2.12   IOC `PcscfFunction`

**Mapping from NRM IOC `PcscfFunction` attributes to SS equivalent MOC `PcscfFunction`**

| Attributes of IOC `PcscfFunction` in TS 32.732 [3] | SS Attributes | SS Type | Qualifier |
|---|---|---|---|
| pcscfFunctionId | pcscfFunctionId | string | Read-Only, M |
| linkList | linkList | GenericNetworkResourcesIRPSystem::AttributeTypes::LinkListSet | Read-Only, O |

## 5.2.13   IOC `ScscfFunction`

**Mapping from NRM IOC `ScscfFunction` attributes to SS equivalent MOC `ScscfFunction`**

| Attributes of IOC `ScscfFunction` in TS 32.732 [3] | SS Attributes | SS Type | Qualifier |
|---|---|---|---|
| scscfFunctionId | scscfFunctionId | string | Read-Only, M |
| linkList | linkList | GenericNetworkResourcesIRPSystem::AttributeTypes::LinkListSet | Read-Only, O |

## 5.2.14   IOC `SipAsFunction`

Void.

## 5.2.15   IOC `SlfFunction`

**Mapping from NRM IOC `SlfFunction` attributes to SS equivalent MOC `SlfFunction`**

| Attributes of IOC `SlfFunction` in TS 32.732 [3] | SS Attributes | SS Type | Qualifier |
|---|---|---|---|
| slfFunctionId | slfFunctionId | string | Read-Only, M |
| linkList | linkList | GenericNetworkResourcesIRPSystem::AttributeTypes::LinkListSet | Read-Only, O |

## 5.2.16   Reserved for Future Use

…

## 5.2.50   Reserved for Future Use

## 5.2.51   IOC `Link_As_Cscf`

All attributes are inherited from `Link`. See mapping of attributes for `Link` IOC in 3GPP TS 32.623 [5].

## 5.2.52   IOC `Link_As_Hss`

All attributes are inherited from `Link`. See mapping of attributes for `Link` IOC in 3GPP TS 32.623 [5].

## 5.2.53   IOC `Link_As_Icscf`

All attributes are inherited from `Link`. See mapping of attributes for `Link` IOC in 3GPP TS 32.623 [5].

## 5.2.54   IOC `Link_As_Scscf`

All attributes are inherited from `Link`. See mapping of attributes for `Link` IOC in 3GPP TS 32.623 [5].

## 5.2.55   IOC `Link_As_Slf`

All attributes are inherited from `Link`. See mapping of attributes for `Link` IOC in 3GPP TS 32.623 [5].

## 5.2.56   IOC `Link_Bgcf_Bgcf`

All attributes are inherited from `Link`. See mapping of attributes for `Link` IOC in 3GPP TS 32.623 [5].

## 5.2.57   IOC `Link_Bgcf_Cscf`

All attributes are inherited from `Link`. See mapping of attributes for `Link` IOC in 3GPP TS 32.623 [5].

## 5.2.58   IOC `Link_Bgcf_Mgcf`

All attributes are inherited from `Link`. See mapping of attributes for `Link` IOC in 3GPP TS 32.623 [5].

## 5.2.59   IOC `Link_Bgcf_Scscf`

All attributes are inherited from `Link`. See mapping of attributes for `Link` IOC in 3GPP TS 32.623 [5].

## 5.2.60 IOC `Link_Cscf_Cscf`

All attributes are inherited from `Link`. See mapping of attributes for `Link` IOC in 3GPP TS 32.623 [5].

## 5.2.61 IOC `Link_Cscf_Hss`

All attributes are inherited from `Link`. See mapping of attributes for `Link` IOC in 3GPP TS 32.623 [5].

## 5.2.62 IOC `Link_Cscf_Icscf`

All attributes are inherited from `Link`. See mapping of attributes for `Link` IOC in 3GPP TS 32.623 [5].

## 5.2.63 IOC `Link_Cscf_Mgcf`

All attributes are inherited from `Link`. See mapping of attributes for `Link` IOC in 3GPP TS 32.623 [5].

## 5.2.64 IOC `Link_Cscf_Mrfc`

All attributes are inherited from `Link`. See mapping of attributes for `Link` IOC in 3GPP TS 32.623 [5].

## 5.2.65 IOC `Link_Cscf_Pcscf`

All attributes are inherited from `Link`. See mapping of attributes for `Link` IOC in 3GPP TS 32.623 [5].

## 5.2.66 IOC `Link_Cscf_Scscf`

All attributes are inherited from `Link`. See mapping of attributes for `Link` IOC in 3GPP TS 32.623 [5].

## 5.2.67 IOC `Link_Cscf_Slf`

All attributes are inherited from `Link`. See mapping of attributes for `Link` IOC in 3GPP TS 32.623 [5].

## 5.2.68 IOC `Link_Hss_Scscf`

All attributes are inherited from `Link`. See mapping of attributes for `Link` IOC in 3GPP TS 32.623 [5].

## 5.2.69 IOC `Link_Icscf_Slf`

All attributes are inherited from `Link`. See mapping of attributes for `Link` IOC in 3GPP TS 32.623 [5].

## 5.2.70 IOC `Link_ImsMgw_Mgcf`

All attributes are inherited from `Link`. See mapping of attributes for `Link` IOC in 3GPP TS 32.623 [5].

## 5.2.71 IOC `Link_Mgcf_Scscf`

All attributes are inherited from `Link`. See mapping of attributes for `Link` IOC in 3GPP TS 32.623 [5].

## 5.2.72 IOC `Link_Mrfc_Mrfp`

All attributes are inherited from `Link`. See mapping of attributes for `Link` IOC in 3GPP TS 32.623 [5].

## 5.2.73 IOC `Link_Mrfc_Scscf`

All attributes are inherited from `Link`. See mapping of attributes for `Link` IOC in 3GPP TS 32.623 [5].

## 5.2.74 IOC `Link_Scscf_Scscf`

All attributes are inherited from `Link`. See mapping of attributes for `Link` IOC in 3GPP TS 32.623 [5].

## 5.2.75 IOC `Link_Scscf_Slf`

All attributes are inherited from `Link`. See mapping of attributes for `Link` IOC in 3GPP TS 32.623 [5].

# 6 Rules for NRM extensions

This clause discusses how the models and IDL definitions provided in the present document can be extended for a particular implementation and still remain compliant with 3GPP SA5's specifications.

## 6.1 Allowed extensions

Vendor-specific MOCs may be supported. The vendor-specific MOCs may support new types of attributes. The 3GPP SA5-specified notifications may be issued referring to the vendor-specific MOCs and vendor-specific attributes. New MOCs shall be distinguishable from 3GPP SA5 MOCs by name. 3GPP SA5-specified and vendor-specific attributes may be used in vendor-specific MOCs. Vendor-specific attribute names shall be distinguishable from existing attribute names.

NRM MOCs may be subclassed. Subclassed MOCs shall maintain the specified behaviour of the 3GPP SA5's superior classes. They may add vendor-specific behaviour with vendor-specific attributes. When subclassing, naming attributes cannot be changed. The subclassed MOC shall support all attributes of its superior class. Vendor-specific attributes cannot be added to 3GPP SA5 NRM MOCs without subclassing.

When subclassing, the 3GPP SA5-specified containment rules and their specified cardinality shall still be followed. As an example, ManagementNode (or its subclasses) shall be contained under SubNetwork (or its subclasses).

Managed Object Instances may be instantiated as CORBA objects. This requires that the MOCs be represented in IDL. 3GPP SA5's NRM MOCs are not currently specified in IDL, but may be specified in IDL for instantiation or subclassing purposes. However, management information models should not require that IRPManagers access the instantiated managed objects other than through supported methods in the present document.

Extension rules related to notifications (Notification categories, Event Types, Extended Event Types etc.) are for further study.

## 6.2 Extensions not allowed

The IDL specifications in the present document cannot be edited or altered. Any additional IDL specifications shall be specified in separate IDL files.

IDL interfaces (note: not MOCs) specified in the present document may not be subclassed or extended. New interfaces may be defined with vendor-specific methods.

# Annex A (normative):
# CORBA IDL, NRM Definitions

## A.1 IDL specification (file name "IMSNRMDefs.idl")

```
// File: IMSNRMDefs.idl
#ifndef _IMSNRMDEFS_IDL_
#define _IMSNRMDEFS_IDL_
#include "GenericNetworkResourcesNRMDefs.idl"

#pragma prefix "3gppsa5.org"

/**
 * This module defines constants for each MO class name and
 * the attribute names for each defined MO class.
 */
module IMSNRMDefs
{
      /**
       *  Definitions for MO class AsFunction
       */
      interface AsFunction : GenericNetworkResourcesNRMDefs::ManagedFunction
      {
        const string CLASS = "AsFunction";

        // Attribute Names
        //
        const string asFunctionId = "asFunctionId";
        const string linkList = "linkList";
      };
      /**
       *  Definitions for MO class SipAsFunction
       */
      interface SipAsFunction : AsFunction
      {
        const string CLASS = "SipAsFunction";

        // All Attributes inherited from AsFunction
      };
      /**
       *  Definitions for MO class OsaScsAsFunction
       */
      interface OsaScsAsFunction : AsFunction
      {
        const string CLASS = "OsaScsAsFunction";

        // All Attributes inherited from AsFunction
      };
      /**
       *  Definitions for MO class CamelImSsfAsFunction
       */
      interface CamelImSsfAsFunction : AsFunction
      {
        const string CLASS = "CamelImSsfAsFunction";

        // All Attributes inherited from AsFunction
      };
      /**
       *  Definitions for MO class BgcfFunction
       */
      interface BgcfFunction : GenericNetworkResourcesNRMDefs::ManagedFunction
      {
        const string CLASS = "BgcfFunction";

        // Attribute Names
        //
        const string bgcfFunctionId = "bgcfFunctionId";
        const string linkList = "linkList";
      };
      /**
       *  Definitions for MO class CscfFunction
```

```
    */
    interface CscfFunction : GenericNetworkResourcesNRMDefs::ManagedFunction
    {
       const string CLASS = "CscfFunction";
       // Attribute Names
       //
       const string cscfFunctionId = "cscfFunctionId";
       const string linkList = "linkList";
    };
    /**
     *  Definitions for MO class IcscfFunction
     */
    interface IcscfFunction : GenericNetworkResourcesNRMDefs::ManagedFunction
    {
       const string CLASS = "IcscfFunction";

       // Attribute Names
       //
       const string icscfFunctionId = "icscfFunctionId";
       const string linkList = "linkList";
    };
    /**
     *  Definitions for MO class ImsMgwFunction
     */
    interface ImsMgwFunction : GenericNetworkResourcesNRMDefs::ManagedFunction
    {
       const string CLASS = "ImsMgwFunction";

       // Attribute Names
       //
       const string imsMgwFunctionId = "imsMgwFunctionId";
       const string linkList = "linkList";
    };
    /**
     *  Definitions for MO class MgcfFunction
     */
    interface MgcfFunction : GenericNetworkResourcesNRMDefs::ManagedFunction
    {
       const string CLASS = "MgcfFunction";

       // Attribute Names
       //
       const string mgcfFunctionId = "mgcfFunctionId";
       const string linkList = "linkList";
    };
    /**
     *  Definitions for MO class MrfcFunction
     */
    interface MrfcFunction : GenericNetworkResourcesNRMDefs::ManagedFunction
    {
       const string CLASS = "MrfcFunction";

       // Attribute Names
       //
       const string mrfcFunctionId = "mrfcFunctionId";
       const string linkList = "linkList";
    };
    /**
     *  Definitions for MO class MrfpFunction
     */
    interface MrfpFunction : GenericNetworkResourcesNRMDefs::ManagedFunction
    {
       const string CLASS = "MrfpFunction";

       // Attribute Names
       //
       const string mrfpFunctionId = "mrfpFunctionId";
       const string linkList = "linkList";
    };
    /**
     *  Definitions for MO class PcscfFunction
     */
    interface PcscfFunction : GenericNetworkResourcesNRMDefs::ManagedFunction
    {
       const string CLASS = "PcscfFunction";
       // Attribute Names
       //
       const string pcscfFunctionId = "pcscfFunctionId";
```

```
      const string linkList = "linkList";
   };
   /**
    *  Definitions for MO class ScscfFunction
    */
   interface ScscfFunction : GenericNetworkResourcesNRMDefs::ManagedFunction
   {
      const string CLASS = "ScscfFunction";

      // Attribute Names
      //
      const string scscfFunctionId = "scscfFunctionId";
      const string linkList = "linkList";
   };
   /**
    *  Definitions for MO class SlfFunction
    */
   interface SlfFunction : GenericNetworkResourcesNRMDefs::ManagedFunction
   {
      const string CLASS = "SlfFunction";

      // Attribute Names
      //
      const string slfFunctionId = "slfFunctionId";
      const string linkList = "linkList";
   };
   /**
    *  Definitions for MO class Link_As_Cscf
    */
   interface Link_As_Cscf: GenericNetworkResourcesNRMDefs::Link
   {
      const string CLASS = "Link_As_Cscf";
      // All Attributes inherited from Link
   };
   /**
    *  Definitions for MO class Link_As_Scscf
    */
   interface Link_As_Scscf : GenericNetworkResourcesNRMDefs::Link
   {
      const string CLASS = "Link_As_Scscf";

      // All Attributes inherited from Link

   };
   /**
    *  Definitions for MO class Link_As_Slf
    */
   interface Link_As_Slf : GenericNetworkResourcesNRMDefs::Link
   {
      const string CLASS = "Link_As_Slf";
      // All Attributes inherited from Link

   };
   /**
    *  Definitions for MO class Link_Bgcf_Bgcf
    */
   interface Link_Bgcf_Bgcf : GenericNetworkResourcesNRMDefs::Link
   {
      const string CLASS = "Link_Bgcf_Bgcf";
      // All Attributes inherited from Link

   };
   /**
    *  Definitions for MO class Link_Bgcf_Cscf
    */
   interface Link_Bgcf_Cscf: GenericNetworkResourcesNRMDefs::Link
   {
      const string CLASS = "Link_Bgcf_Cscf";
      // All Attributes inherited from Link
   };
   /**
    *  Definitions for MO class Link_Bgcf_Mgcf
    */
   interface Link_Bgcf_Mgcf : GenericNetworkResourcesNRMDefs::Link
   {
      const string CLASS = "Link_Bgcf_Mgcf";
      // All Attributes inherited from Link
```

```
  };
/**
  *  Definitions for MO class Link_Bgcf_Scscf
  */
 interface Link_Bgcf_Scscf : GenericNetworkResourcesNRMDefs::Link
 {
    const string CLASS = "Link_Bgcf_Scscf";

    // All Attributes inherited from Link
 };
/**
  *  Definitions for MO class Link_Cscf_Cscf
  */
 interface Link_Cscf_Cscf: GenericNetworkResourcesNRMDefs::Link
 {
    const string CLASS = "Link_Cscf_Cscf";
    // All Attributes inherited from Link
 };
/**
  *  Definitions for MO class Link_Cscf_Icscf
  */
 interface Link_Cscf_Icscf: GenericNetworkResourcesNRMDefs::Link
 {
    const string CLASS = "Link_Cscf_Icscf";
    // All Attributes inherited from Link
 };
/**
  *  Definitions for MO class Link_Cscf_Mgcf
  */
 interface Link_Cscf_Mgcf: GenericNetworkResourcesNRMDefs::Link
 {
    const string CLASS = "Link_Cscf_Mgcf";
    // All Attributes inherited from Link
 };
/**
  *  Definitions for MO class Link_Cscf_Mrfc
  */
 interface Link_Cscf_Mrfc: GenericNetworkResourcesNRMDefs::Link
 {
    const string CLASS = "Link_Cscf_Mrfc";
    // All Attributes inherited from Link
 };
/**
  *  Definitions for MO class Link_Cscf_Pcscf
  */
 interface Link_Cscf_Pcscf: GenericNetworkResourcesNRMDefs::Link
 {
    const string CLASS = "Link_Cscf_Pcscf";
    // All Attributes inherited from Link
 };
/**
  *  Definitions for MO class Link_Cscf_Scscf
  */
 interface Link_Cscf_Scscf: GenericNetworkResourcesNRMDefs::Link
 {
    const string CLASS = "Link_Cscf_Scscf";
    // All Attributes inherited from Link
 };
/**
  *  Definitions for MO class Link_Cscf_Slf
  */
 interface Link_Cscf_Slf: GenericNetworkResourcesNRMDefs::Link
 {
    const string CLASS = "Link_Cscf_Slf";
    // All Attributes inherited from Link
 };
/**
  *  Definitions for MO class Link_Icscf_Slf
  */
 interface Link_Icscf_Slf : GenericNetworkResourcesNRMDefs::Link
 {
    const string CLASS = "Link_Icscf_Slf";

    // All Attributes inherited from Link
 };
/**
  *  Definitions for MO class Link_ImsMgw_Mgcf
  */
```

```
   interface Link_ImsMgw_Mgcf : GenericNetworkResourcesNRMDefs::Link
   {
      const string CLASS = "Link_ImsMgw_Mgcf";

      // All Attributes inherited from Link
   };
/**
 *  Definitions for MO class Link_Mgcf_Scscf
 */
   interface Link_Mgcf_Scscf : GenericNetworkResourcesNRMDefs::Link
   {
      const string CLASS = "Link_Mgcf_Scscf";

      // All Attributes inherited from Link
   };
/**
 *  Definitions for MO class Link_Mrfc_Mrfp
 */
   interface Link_Mrfc_Mrfp : GenericNetworkResourcesNRMDefs::Link
   {
      const string CLASS = "Link_Mrfc_Mrfp";

      // All Attributes inherited from Link
   };
/**
 *  Definitions for MO class Link_Mrfc_Scscf
 */
   interface Link_Mrfc_Scscf : GenericNetworkResourcesNRMDefs::Link
   {
      const string CLASS = "Link_Mrfc_Scscf";

      // All Attributes inherited from Link
   };
/**
 *  Definitions for MO class Link_Scscf_Scscf
 */
   interface Link_Scscf_Scscf : GenericNetworkResourcesNRMDefs::Link
   {
      const string CLASS = "Link_Scscf_Scscf";

      // All Attributes inherited from Link
   };
/**
 *  Definitions for MO class Link_Scscf_Slf
 */
   interface Link_Scscf_Slf : GenericNetworkResourcesNRMDefs::Link
   {
      const string CLASS = "Link_Scscf_Slf";

      // All Attributes inherited from Link
   };
/**
 *  Definitions for MO class HssFunction
 */
   interface HssFunction : GenericNetworkResourcesNRMDefs::ManagedFunction
   {
      const string CLASS = "HssFunction";

      // Attribute Names
      //
      const string hssFunctionId = "hssFunctionId";
      const string linkList = "linkList";
   };
/**
 *  Definitions for MO class Link_Hss_Scscf
 */
   interface Link_Hss_Scscf : GenericNetworkResourcesNRMDefs::Link
   {
      const string CLASS = "Link_Hss_Scscf";

      // All Attributes inherited from Link
   };
/**
 *  Definitions for MO class Link_Cscf_Hss
 */
   interface Link_Cscf_Hss : GenericNetworkResourcesNRMDefs::Link
   {
      const string CLASS = "Link_Cscf_Hss";
```

```
            // All Attributes inherited from Link
        };
        /**
         *  Definitions for MO class Link_As_Hss
         */
        interface Link_Hss_SipAs : GenericNetworkResourcesNRMDefs::Link
        {
            const string CLASS = "Link_Hss_SipAs";

            // All Attributes inherited from Link
        };
        interface Link_Hss_OsaScsAs : GenericNetworkResourcesNRMDefs::Link
        {
            const string CLASS = "Link_Hss_OsaScsAs";

            // All Attributes inherited from Link
        };
        interface Link_Hss_CamelImSsfAs : GenericNetworkResourcesNRMDefs::Link
        {
            const string CLASS = "Link_Hss_CamelImSsfAs";

            // All Attributes inherited from Link
        };
        /**
         *  Definitions for MO class Link_As_Icscf
         */
        interface Link_As_Icscf : GenericNetworkResourcesNRMDefs::Link
        {
            const string CLASS = "Link_As_Icscf";

            // All Attributes inherited from Link

        };

};

#endif // _IMSNRMDEFS_IDL_
```

# Annex B (informative): Change history

| Change history | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Date | TSG # | TSG Doc. | CR | R | Subject/Comment | Cat | Old | New |
| Sep 2006 | SA_33 | SP-060564 | -- | -- | Submitted to TSG SA #33 for Information | -- | -- | 1.0.0 |
| Dec 2006 | SA_34 | SP-060751 | -- | -- | Submitted to TSG SA #34 for Approval | -- | 2.0.0 | 7.0.0 |
| Mar 2007 | SA_35 | SP-070047 | 0001 | -- | Add HssFunction to the CORBA SS | F | 7.0.0 | 7.1.0 |
| Jun 2007 | SA_36 | SP-070276 | 0002 | -- | Add missing Link_As_Icscf To IMS NRM - Align with TS 23.002 | 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 |
| Sep 2007 | SA_37 | SP-070612 | 0004 | -- | Add missing link attributes to IMS NRM - Align with 3GPP2 | F | 7.2.0 | 7.3.0 |
| Dec 2008 | SA_42 | -- | -- | -- | Upgrade to Release 8 | -- | 7.3.0 | 8.0.0 |
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# History

| Document history | | |
|---|---|---|
| V8.0.0 | January 2009 | Publication |
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