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Technical Specification

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Universal Mobile Telecommunications System (UMTS);
LTE;
Telecommunication management;
Generic Integration Reference Point (IRP) management;
Common Object Request Broker Architecture (CORBA)
Solution Set (SS)
(3GPP TS 32.313 version 9.0.0 Release 9)

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Foreword

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Contents

Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project (3GPP).

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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:

32.311: Generic Integration Reference Point (IRP) management; Requirements

32.312: Generic Integration Reference Point (IRP) management; Information Service (IS)

32.313: Generic Integration Reference Point (IRP) management; Common Object Request Broker Architecture (CORBA) Solution Set (SS)

32.317: "Generic Integration Reference Point (IRP) management; SOAP Solution Set (SS)"

1 Scope

The present document specifies the CORBA Solution Set for Generic Integration Reference Point (IRP) management whose capabilities are specified in 3GPP TS 32.312 [1], the Generic IRP management: Information Service.

This Solution Set specification is related to TS 32.312 V9.0.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 32.312: "Telecommunication management; Generic Integration Reference Point (IRP) management: Information Service (IS)".

[2] 3GPP TS 32.311: "Telecommunication management; Generic Integration Reference Point (IRP) management; Requirements".

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

[4] 3GPP TS 32.302: "Telecommunication management; Configuration Management (CM); Notification Integration Reference Point (IRP): Information Service (IS)".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in TS 32.312 [1] apply.

IRP document version number string (or "IRPVersion"): See 3GPP TS 32.311 [2] subclause 3.1.

3.2 Abbreviations

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

CORBA	Common Object Request Broker Architecture
IDL	Interface Definition Language
IRP	Integration Reference Point
IOC	Information Object Class
OMG	Object Management Group
SS	Solution Set

4 Architectural Features

The overall architectural feature of this IRP is specified in 3G TS 32.312 [1]. This clause specifies features that are specific to the CORBA SS.

4.1 Abstract IOC

The capabilities of the Generic IRP management: IS [1] are captured by the definition of an IOC called ManagedGenericIRP. This IOC is an abstract class and is mapped to a MOC of the same name. The MOC is intended for inheritance by other MOCs specified in Interface IRPs such as AlarmIRP [3], NotificationIRP [4], etc.

5. Mapping

5.1 Operation mapping

Generic IRP management: IS [1] defines semantics of operation visible across the Itf-N. Table 1 indicates mapping of these operations to their equivalents defined in this SS.

Table 5.1: Mapping from IS Notification/Operation to SS equivalents

IS Operation TS 32.312 [1]	SS Method	Qualifier
getIRPVersion	get_irp_versions	M
getOperationProfile	get_interface_irp_operation_profile	O
getNotificationProfile	get_interface_irp_notification_profile	O

5.2 Operation parameter mapping

Generic IRP management: IS [1] defines semantics of parameters carried in operations across the Itf-N. The following set of tables indicates the mapping of these parameters, as per operation, to their equivalents defined in this SS.

Table 5.2 Mapping from IS `getIRPVersion` parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
versionNumberSet	Return value of type GenericIRPManagementConstDefs::VersionNumberSet	M
status	Exceptions: GenericIRPManagementSystem::GetIRPVersions	M

Table 5.3 Mapping from IS `getOperationProfile` parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
iRPVersion	GenericIRPManagementConstDefs::VersionNumber this_irp_version	M
operationNameProfile, operationParameterProfile	Return value of type GenericIRPManagementConstDefs::MethodList	M
status	Exceptions: GenericIRPManagementSystem::GetInterfaceIRPOperationsProfile, GenericIRPManagementSystem::OperationNotSupported, GenericIRPManagementSystem::InvalidParameter, GenericIRPManagementSystem::ValueNotSupported	M

Table 5.4 Mapping from IS `getNotificationProfile` parameters to SS equivalents

IS Operation parameter	SS Method parameter	Qualifier
iRPVersion	GenericIRPManagementConstDefs::VersionNumber this_irp_version	M
notificationNameProfile, notificationParameterProfile	Return value of type GenericIRPManagementConstDefs::NotificationList	M
status	Exceptions: GenericIRPManagementSystem::GetInterfaceIRPNotificationProfile, GenericIRPManagementSystem::OperationNotSupported, GenericIRPManagementSystem::InvalidParameter, GenericIRPManagementSystem::ValueNotSupported	M

Annex A (normative): IDL specifications

A.1 IDL specification (file name 'GenericIRPManagementConstDefs.idl')

```
//File: GenericIRPManagementConstDefs.idl
#ifndef _GENERIC_IRP_MANAGEMENT_CONST_DEFS_IDL_
#define _GENERIC_IRP_MANAGEMENT_CONST_DEFS_IDL_
#include <TimeBase.idl>
// This statement must appear after all include statements
#pragma prefix "3gppsa5.org"
/* ## Module: GenericIRPManagementConstDefs
This module contains definitions commonly used among all IRPs.
============================================================
*/
module GenericIRPManagementConstDefs
{
   /*
    * Definition imported from CosTime.
    * The time refers to time in Greenwich Time Zone.
    * It also consists of a time displacement factor in the form of minutes of
    * displacement from the Greenwich Meridian.
    */
    typedef TimeBase::UtcT IRPTime;
    typedef string DN;
    typedef sequence <DN> DNList;

    enum Signal {OK, FULL_FAILURE, PARTIAL_FAILURE};
    enum Result {SUCCESS, FAILURE};
   /*
    * This holds a list of notification Ids
    */
    typedef sequence <long> NotifIdSet;

   /*
    * This holds identifiers of notifications that are correlated.
    */
    struct CorrelatedNotification
    {
        DN source;// Contains DN of MO that emitted the set of notifications
                  // DN string format in compliance with Name Convention for
                  // Managed Object.
                  // This may be a zero-length string. In this case, the MO
                  // is identified by the value of the MOI attribute
                  // of the Structured Event, i.e., the notification.
        NotifIdSet notif_id_set;  // Set of related notification ids
    };
   /*
    * The VersionNumber is a string that identifies the IRP specification name
    * and its version number. See definition "IRP document version number
    * string" or "IRPVersion".
    * The VersionNumberSet is a sequence of such VersionNumber. It is returned
    * by get_XXX_IRP_versions(). The sequence order has no significance.
    */
    typedef string VersionNumber;
    typedef sequence <VersionNumber> VersionNumberSet;
    typedef string MethodName;
    typedef string ParameterName;
    typedef sequence <ParameterName> ParameterList;
   /*
    * The Method defines the structure to be returned as part of
    * get_supported_operations_profile(). The name shall be the actual method
    * name (ex. "attach_push", "change_subscription_filter", etc.)
    * The parameter_list contains a list of strings. Each string shall be
    * the actual parameter name (ex. "manager_reference", "filter", etc.)
    */
    struct Method
    {
        MethodName name;
```

```
        ParameterList parameter_list;
    };
   /*
    * List of all methods and their associated parameters.
    */
    typedef sequence <Method> MethodList;
    typedef string NotificationName;
    struct Notification
    {
        NotificationName name;
        ParameterList parameter_list;
    };
    typedef sequence <Notification> NotificationList;
   /*
    * Defines the name of an attribute of a Managed Object
    */
    typedef string MOAttributeName;
   /*
    * Defines the value of an attribute of a Managed Object in form of a CORBA
    * Any. Apart from basic datatypes already defined in CORBA, the allowed
    * attribute value types are defined in the AttributeTypes module.
    */
    typedef any MOAttributeValue;
   /*
    * Represents an attribute: "name" is the attribute name
    * and "value" is the attribute value.
    */
    struct MOAttribute
    {
        MOAttributeName name;
        MOAttributeValue value;
    };
    typedef sequence <MOAttribute> MOAttributeSet;

    typedef string ManagerIdentifier;
   /*
    * The following are types carrying an optional parameter.
    * If the boolean is TRUE, then the value is present.
    * Otherwise the value is absent.
    */
    union StringOpt switch (boolean)
    {
        case TRUE: string value;
    };
    union ShortOpt switch (boolean)
    {
        case TRUE: short value;
    };
    union UnsignedShortOpt switch (boolean)
    {
        case TRUE: unsigned short value;
    };
    union LongOpt switch (boolean)
    {
        case TRUE: long value;
    };
    union UnsignedLongOpt switch (boolean)
    {
        case TRUE: unsigned long value;
    };
    union IRPTimeOpt switch (boolean)
    {
       case TRUE: GenericIRPManagementConstDefs::IRPTime value;
    };};
#endif // _GENERIC_IRP_MANAGEMENT_CONST_DEFS_IDL_
```

A.2 IDL specification (file name 'GenericIRPManagementSystem.idl')

```
//File: GenericIRPManagementSystem.idl
#ifndef _GENERIC_IRP_MANAGEMENT_SYSTEM_IDL_
#define _GENERIC_IRP_MANAGEMENT_SYSTEM_IDL_

#include <GenericIRPManagementConstDefs.idl>

// This statement must appear after all include statements
#pragma prefix "3gppsa5.org"

module GenericIRPManagementSystem
{
   exception GetInterfaceIRPNotificationProfile { string reason; };
   exception GetInterfaceIRPOperationProfile { string reason; };
   exception GetIRPVersions { string reason; };

   /*
   Exception thrown when an unsupported optional parameter
   is passed with information.
   The parameter shall be the actual unsupported parameter name.
   */
   exception ParameterNotSupported {
      GenericIRPManagementConstDefs::ParameterName parameter; };

   /*
   Exception thrown when an invalid parameter value is passed.
   The parameter shall be the actual parameter name.
   */
   exception InvalidParameter {
      GenericIRPManagementConstDefs::ParameterName parameter; };

   /*
   Exception thrown when a valid but unsupported parameter value is passed.
   The parameter shall be the actual parameter name.
   */
   exception ValueNotSupported {
      GenericIRPManagementConstDefs::ParameterName parameter; };

   /*
   Exception thrown when an unsupported optional method is called.
   */
   exception OperationNotSupported {};

   interface GenericIRPManagement
   {
      /*
      Return the list of all supported Interface IRP versions
      Each IRPVersion is defined by the rule in the definition
      "IRP document version number string" or "IRPVersion"
      (see subclause 3.1).
      */
      GenericIRPManagementConstDefs::VersionNumberSet get_irp_versions
      (
      )
      raises (GetIRPVersions);

      /*
      Return the list of all supported methods and their supported
      parameters for this Interface IRPVersion.
      */
      GenericIRPManagementConstDefs::MethodList
         get_interface_irp_operation_profile
      (
         in GenericIRPManagementConstDefs::VersionNumber this_irp_version
      )
      raises (GetInterfaceIRPOperationProfile,
              OperationNotSupported,
              InvalidParameter,
              ValueNotSupported);

      /*
      Return the list of all supported notifications and their supported
```

```
      parameters for this Interface IRPVersion.
      */
      typedef GenericIRPManagementConstDefs::NotificationList NotificationList;

      NotificationList get_interface_irp_notification_profile
      (
         in GenericIRPManagementConstDefs::VersionNumber this_irp_version
      )
      raises (GetInterfaceIRPNotificationProfile,
              OperationNotSupported,
              InvalidParameter,
              ValueNotSupported);
    };

};

#endif // _GENERIC_IRP_MANAGEMENT_SYSTEM_IDL_
```

Annex B (informative): Change history

Change history								
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Cat**	**Old**	**New**
Dec 2004	S_26	SP-040795	--	--	Submitted to SA#26 for Approval	--	1.0.0	6.0.0
Jun 2005	S_28	SP-050288	0001	--	Correction of IDL syntax errors in GenericIRPManagement{ConstDefs|System}.idl	F	6.0.0	6.1.0
Sep 2005	SA_29	SP-050461	0002	--	Align the CORBA SS IDL with TS 32.150 Style Guide	F	6.1.0	6.2.0
Sep 2006	SA_33	SP-060529	0003	--	Capture all CORBA common types in 32.313	F	6.2.0	6.3.0
Mar 2007	SA_35	SP-070035	0004	--	Correct the compiling errors in the CORBA IDL	F	6.3.0	6.4.0
Jun 2007	SA_36	--	--	--	Automatic upgrade to Rel-7 (no CR) at freeze of Rel-7. Deleted reference to CMIP SS, discontinued from R7 onwards.	--	6.4.0	7.0.0
Dec 2008	SA_42	--	--	--	Upgrade to Release 8	--	7.0.0	8.0.0
Dec 2009	-	-	-	-	Update to Rel-9 version (MCC)	-	8.0.0	9.0.0

History

Document history		
V9.0.0	February 2010	Publication