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*Technical Specification*

**Digital cellular telecommunications system (Phase 2+);  
Universal Mobile Telecommunications System (UMTS);  
Telecommunication management;  
Generic Integration Reference Point (IRP) management;  
Common Object Request Broker Architecture (CORBA)  
Solution Set (SS)  
(3GPP TS 32.313 version 7.0.0 Release 7)**

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**ETSI**

650 Route des Lucioles  
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C  
Association à but non lucratif enregistrée à la  
Sous-Préfecture de Grasse (06) N° 7803/88

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## Foreword

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## Foreword

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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.

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## Introduction

The present document is part of a TS-family covering the 3<sup>rd</sup> 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; Simple Object Access Protocol (SOAP) Solution Set (SS)"

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# 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 V7.0.X.

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# 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)".

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# 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.

### 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**

<b>IS Operation parameter</b>	<b>SS Method parameter</b>	<b>Qualifier</b>
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 GenericRPMManagement{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

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# History

<b>Document history</b>		
V7.0.0	June 2007	Publication