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Presentation of Technical Specification to TSG SA

Presentation to: TSG SA Meeting #26
Document for presentation: TS 32.313 Version 1.0.0
Generic IRP Management; CORBA Solution Set
Presented for: Approval

Abstract of document:

This TS defines the CORBA Solution Set (SS) for the Generic IRP Management (TS 32.31x).

Work done against the WID contained in SP-020754 (OAM-NIM).

Purpose of These Specifications:

Currently, the IDL files related to Generic IRP Management were published under Notification IRP CORBA SS (TS 32.30x). Currently, there is no SS published under Generic IRP Management (32.31x).

This TS introduces CORBA SS for Generic IRP Management. It defines methods for obtaining supported IRP Versions, the supported operation profiles and the supported notification profiles.

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:

- 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)";**
- 32.314: "Generic Integration Reference Point (IRP) management; Common Management Information Protocol (CMIP) Solution Set (SS)";

Changes since last presentation to TSG-SA:

New

Outstanding Issues:

None.

Contentious Issues:

None.

3GPP TS 32.313 V1.0.0 (2004-12)

Technical Specification

**3rd Generation Partnership Project;
Technical Specification Group Services and System Aspects
Telecommunication management;
Generic Integration Reference Point (IRP) management;
Common Object Request Broker Architecture (CORBA)
Solution Set (SS)
(Release 6)**



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Keywords

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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:

- 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)";**
- 32.314: "Generic Integration Reference Point (IRP) management; Common Management Information Protocol (CMIP) Solution Set (SS)";

1 Scope

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

This Solution Set specification is related to TS 32.312 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 32.312: "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 _GENERICIRPMANAGEMENTCONSTDEFS_IDL_
#define _GENERICIRPMANAGEMENTCONSTDEFS_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;

    enum Signal {OK, FAILURE, PARTIALFAILURE};

    /*
    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;

/*
StringTypeOpt is a type carrying an optional parameter.
If the boolean is TRUE, then the value is present.
Otherwise the value is absent.
*/
union StringTypeOpt switch (boolean)
{
    case TRUE: string value;
};

/*
ShortTypeOpt is a type carrying an optional parameter.
If the boolean is TRUE, then the value is present.
Otherwise the value is absent.
*/
union ShortTypeOpt switch (boolean)
{
    case TRUE: short value;
};

/*
UnsignedShortTypeOpt is a type carrying an optional parameter.
If the boolean is TRUE, then the value is present.
Otherwise the value is absent.
*/
union UnsignedShortTypeOpt switch (boolean)
{
    case TRUE: unsigned short value;
};

/*
LongTypeOpt is a type carrying an optional parameter.
If the boolean is TRUE, then the value is present.
Otherwise the value is absent.
*/
union LongTypeOpt switch (boolean)
{
    case TRUE: long value;
};

/*
UnsignedLongTypeOpt is a type carrying an optional parameter.
If the boolean is TRUE, then the value is present.
Otherwise the value is absent.
*/
union UnsignedLongTypeOpt switch (boolean)
```

```
{  
    case TRUE: unsigned long value;  
};
```

```
#endif _GENERICIRPMANAGEMENTCONSTDEFS_IDL_
```

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

```
//File: GenericIRPManagementSystem.idl

#ifndef _GENERICIRPMANAGEMENTSYSTEM_IDL_
#define _GENERICIRPMANAGEMENTSYSTEM_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  _GENERICIRPMANAGEMENTSYSTEM_IDL_
```

Annex B (informative): Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
Dec 2004	S_26	SP-040795	--	--	Submitted to SA#26 for Approval	1.0.0	