Source: **SA5 (Telecom Management)**

Title: **2 Rel-4/5 CR 32.112 (Generic IRP IS) : Align with 32.102 and 32.311**

Document for: **Decision**

Agenda Item: **7.5.3**

Doc-1st-Level	Spec	CR	Phase	Subject	Cat	Version-Current	Doc-2nd-Level	Status-2nd-Level	WI
SP-030640	32.312	001	Rel-4	Align with 32.102 and 32.311	F	4.0.1	S5-038783	Agreed	OAM-CM
SP-030640	32.312	002	Rel-5	Align with 32.102 and 32.311	A	5.0.1	S5-038784	Agreed	OAM-CM

CR-Form-v7

CHANGE REQUEST

⌘ **32.312** CR **001** ⌘**rev** **-** ⌘ Current version: **4.0.1** ⌘

For __HELP__ on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network **X** Core Network **X**

Title:	⌘	Align with 32.102 and 32.311
Source:	⌘	SA5 (Thomas.Tovinger@ericsson.com, Edwin.Tse@ericsson.com)
Work item code:⌘	OAM-CM	*Date:* ⌘ 21/11/2003
Category:	⌘ **F**	*Release:* ⌘ Rel-4

Use <u>one</u> of the following categories:
 F (correction)
 A (corresponds to a correction in an earlier release)
 B (addition of feature),
 C (functional modification of feature)
 D (editorial modification)
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use <u>one</u> of the following releases:
 2 (GSM Phase 2)
 R96 (Release 1996)
 R97 (Release 1997)
 R98 (Release 1998)
 R99 (Release 1999)
 Rel-4 (Release 4)
 Rel-5 (Release 5)
 Rel-6 (Release 6)

Reason for change:	⌘	1. Text in subclause 1:Scope is ambiguous. 2. "Qualifiers" are defined in the standard IS template in 32.102 and should not be defined in 3.1 here. 3. Some attribute names in the UML diagram in 5.2.1 don't correspond to the definitions in attribute tables, and the visibilityQualifier in the same diagram is shown with a value that is not an element of the valid set (it uses an old symbol for "private attribute"). 4. One attribute (iRPVersion) is wrongly spelled in the attribute table 5.3.1.2 (does not match the UML diagram and the real plural semantics). 5. The attribute table in 5.3.1.2 does not follow the correct IS template in 32.102. 6. Wrong definition of "IRPVersions" in 5.5.1 – should refer to the real definition in subclause 3.1 and TS 32.311.
Summary of change:⌘		1. Clarify the text in subclause 1:Scope. 2. Remove "Qualifiers" from subclause 3.1. 3. Correct spelling of attribute names and value of visibilityQualifier in the UML diagram in 5.2.1. 4. Correct spelling of attribute 'iRPVersion' (->'iRPVersions'). 5. Add missing elements to the attribute table in 5.3.1.2. 6. Correct the definition of "IRPVersions" in 5.5.1. 7. Some editorial corrections.
Consequences if not approved:	⌘	The specification would contain errors and ambiguities.
Clauses affected:	⌘	1, 3, 5, 6.

		Y	N		
Other specs affected:	⌘		X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	

Other comments:	⌘	A corresp. Rel5 CR should be approved at the same time as this CR.

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

Change in Clause 1

1 Scope

The purpose of the present document is to define a common service supported by all IRPs such as AlarmIRP. The present document is the "Information Service" part. It defines, for the purpose of supporting the common service, the information observable and controllableed by management system's client (i.e., IRPManager) via the Itf-N. and iIt also specifies the semantics of and the interactions used to carry this information.

With this common service supported by all IRPs, an IRPManager can retrieve the profile of operations and notifications supported by a given IRP name-contained supported by an IRPAgent. An IRPManager can also retrieve the IRPVersionsdifferent versions supported by a given IRP.

End of Change in Clause 1

Change in Clause 3

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] and 3GPP TS 32.301-1 [3] and the following apply:

IRPAgent: See 3GPP TS 32.102 [2].

IRPManager: See 3GPP TS 32.102 [2].

IRP document version number string (or "IRPVersion"): See 3GPP TS 32.311 [5].

IRP: See 3GPP TS 32.102 [2].

Itf-N: See 3GPP TS 32.102 [2].

qualifiers: the meaning of qualifiers for operations, parameters and information attributes (whether they are Mandatory (M), Conditional (C) or Optional (O)) is provided in 3GPP TS 32.102 [2].
Moreover, qualifiers of information attributes, when those information attributes are re-used in other IRP ISs, obey to the following rule: Mandatory and Conditional qualifiers of information attributes shall always be the same in other IRPs ISs, Optional qualifiers of information attributes may be set to either Optional or Mandatory in the other IRP ISs.

End of Change in Clause 3

Changes in Clause 5 and 6

5 Information Object Classes

5.1 Information entities imported and local labels

Label reference	Local label
3GPP TS 32.622 [4], information object class, GenericIRP	GenericIRP

5.2 Class Diagram

5.2.1 Attributes and relationships

Figure 3 depicts the set of IOCs that encapsulate information relevant for this service. This subclause provides the overview of all information object classes in UML. Subsequent subclauses provide more detailed specification of various aspects of these information object classes.
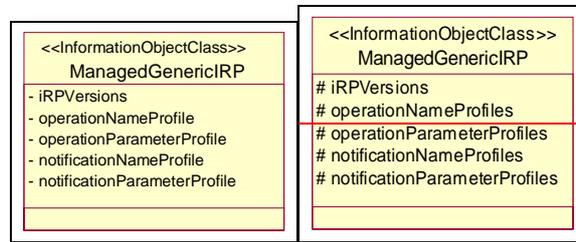

Figure 3:

5.2.2 Inheritance

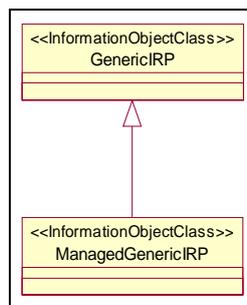Figure 4 depicts the inheritance relationships that exist between information object classes.

Figure 4:

5.3 Information object classes definition

5.3.1 ManagedGenericIRP

5.3.1.1 Definition

This information object represents a generic IRP which supports generic management capabilities. It inherits from IOC GenericIRP.

5.3.1.2 Attributes

Attribute name	Visibility	Support Qualifier	Read Qualifier	Write Qualifier
iIRPVersions	-	M	-	-
operationNameProfile	-	O	-	-
operationParameterProfile	-	O	-	-
notificationNameProfile	-	O	-	-
notificationParameterProfile	-	O	-	-

5.4 Information relationships definition

None.

5.5 Information attributes definition

This subclause defines the semantics of the Attributes used in Information Object Classes.

5.5.1 Definitions and legal values

Attribute Name	Definition	Legal Values
iRPrpVersions	This attribute contains a set of IRPVersions. The set contains at least one element.	See definition "IRP document version number string" in subclause 3.1.Any value of the following format : "32.xyz Va.b"
operationNameProfile	This attribute contains a set of elements. The n-th element of this set contains the set of operation names supported for the IRPVersion identified in the n-th element of iRPrpVersions attribute.	
notificationNameProfile	This attribute contains a set of elements. The n-th element of this set contains the set of notification names supported for the IRPVersion identified in the n-th element of iRPrpVersions attribute.	
operationParameterProfile	This attribute contains a set of elements. The n-th element of this set contains the set of set of notification parameters supported by the operations identified in the n-th element of operationNameProfile attribute. The set of operation parameters are placed in the set in the same order as the order followed by the operation names in their set.	
notificationParameterProfile	This attribute contains a set of elements. The n-th element of this set contains the set of set of notification parameters supported by the notifications identified in the n-th element of notificationNameProfile attribute. The set of notification parameters are placed in the set in the same order as the order followed by the notification names in their set.	

6 Interface Definition
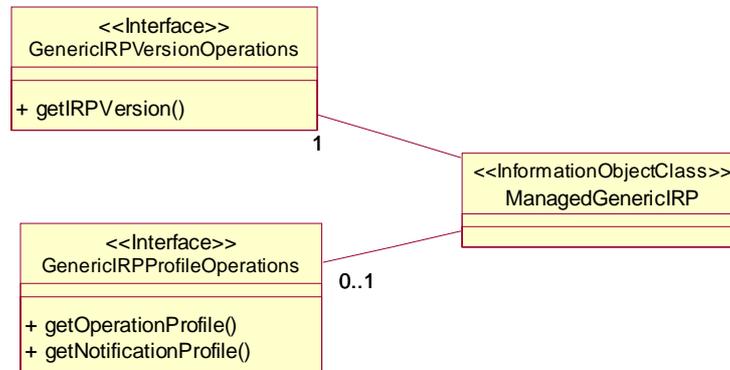
6.1 Class diagram representing interfaces

Figure 5: Class diagram representing interfaces

6.2 Generic rules

- **Rule 1:** each operation with at least one input parameter supports a pre-condition valid_input_parameter which indicates that all input parameters shall be valid with regards to their information type. Additionally, each such operation supports an exception operation_failed_invalid_input_parameter which is raised when pre-condition valid_input_parameter is false. The exception has the same entry and exit state.

- **Rule 2:** Each operation with at least one optional input parameter supports a set of pre-conditions supported_optional_input_parameter_xxx where "xxx" is the name of the optional input parameter and the pre-condition indicates that the operation supports the named optional input parameter. Additionally, each such operation supports an exception operation_failed_unsupported_optional_input_parameter_xxx which is raised when (a) the pre-condition supported_optional_input_parameter_xxx is false and (b) the named optional input parameter is carrying information. The exception has the same entry and exit state.

- **Rule 3:** each operation shall support a generic exception operation_failed_internal_problem which is raised when an internal problem occurs and that the operation cannot be completed. The exception has the same entry and exit state.

6.3 genericIRPVersionOperations Interface

6.3.1 Operation `getIRPVersion` (M)

6.3.1.1 Definition

IRPManager wishes to find out the IRP SS versions supported by an IRP. The IRP shall respond with a set of supported IRP SS version(s). The list of returned IRP versions is such that the IRPManager can use any of these versions without having to specify an IRPVersion to the IRPAgent.

6.3.1.2 Input parameters

None

6.3.1.3 Output parameters

Parameter Name	Qualifier	Matching Information	Comment
versionNumberSet	M	ManagedGenericIRP.iRPVersions	It indicates one or more SS version numbers (IRPVersion, as defined by "IRP document version number string" in subclause 3.1) supported by the IRP.
status	M	ENUM (Operation succeeded, Operation failed)	If operation_failed_internal_problem status = OperationFailed.

6.3.1.4 Pre-condition

None specific.

6.3.1.5 Post-condition

None specific.

6.3.1.6 Exceptions

None specific.

6.4 genericIRPProfileOperations Interface

6.4.1 Operation getOperationProfile (O)

6.4.1.1 Definition

IRPManager invokes this operation to query the detailed profile of an IRP (supported operations and supported parameters) for a specific supported version. The notification profile will provide details about notifications that are specifically defined by this IRP.

6.4.1.2 Input parameters

Parameter Name	Qualifier	Information Type	Comment
iRPrpVersion	M	Element of ManagedGenericIRP.iRPVersions.	It contains a version number.

6.4.1.3 Output parameters

Parameter Name	Qualifier	Matching Information	Comment
operationNameProfile	M	Elements of ManagedGenericIRP.operationNameProfile corresponding to the iRPrpVersion parameter.	If this parameter contains no information, it implies that the IRP does not support any operation.
operationParameterProfile	M	Elements of ManagedGenericIRP.operationParameterProfile corresponding to the iRPrpVersion parameter.	
status	M	ENUM (Operation succeeded, Operation failed)	If operation_failed_invalid_version status = OperationFailed.

6.4.1.4 Pre-condition

validIRPVersion.

Assertion Name	Definition
validIRPVersion	T"the iRPrpVersion input parameter identifies a supported version contained in attribute iRPVersions of ManagedGenericIRP."

6.4.1.5 Post-condition

None specific.

6.4.1.6 Exceptions

Name	Definition
Operation_failed_invalid_version	**Condition:** validIRPVersion is false **Returned Information:** The output parameter status **Exit state:** Entry State

6.4.2 Operation getNotificationProfile (O)

6.4.2.1 Definition

IRPManager invokes this operation to query the detailed notification profile of an IRP (supported notifications and supported parameters) for a specific supported version. The notification profile will provide details about notifications that are specifically defined by this IRP. For example, if this IRP is notification IRP R4, then getNotificationProfile will not return any information since no notification are defined in notification IRP R4.

6.4.2.2 Input parameters

Parameter Name	Qualifier	Information Type	Comment
iRPrpVersion	M	Element of ManagedGenericIRP.iRPVersion	It contains a version number.

6.4.2.3 Output parameters

Parameter Name	Qualifier	Matching Information	Comment
notificationNameProfile	M	Element of ManagedGenericIRP.notificationNameProfile corresponding to the iRPrpVersion parameter.	If this parameter contains no information, it implies that the IRP does not support any notification.
notificationParameterProfile	M	Element of ManagedGenericIRP.notificationParameterProfile corresponding to the iRPrpVersion parameter.	
status	M	ENUM (Operation succeeded, Operation failed)	If operation_failed_invalid_version status = OperationFailed.

6.4.2.4 Pre-condition

validIRPVersion.

Assertion Name	Definition
validIRPVersion	T"the iRPrpVersion input parameter identifies a supported version contained in attribute iRPVersions of ManagedGenericIRP."

6.4.2.5 Post-condition

None specific.

6.4.2.6 Exceptions

Name	Definition
Operation_failed_invalid_version	**Condition:** validIRPVersion is false **Returned Information:** The output parameter status **Exit state:** Entry State

---

End of Changes in Clause 5 and 6

END of changes

Annex A (informative):
Change history

<table>
<tr><td colspan="8" align="center">Change history</td></tr>
<tr><th>Date</th><th>TSG #</th><th>TSG Doc.</th><th>CR</th><th>Rev</th><th>Subject/Comment</th><th>Old</th><th>New</th></tr>
<tr><td>Jun 2001</td><td>S_12</td><td>SP-010285</td><td>--</td><td>--</td><td>Approved at TSG SA #12 and placed under Change Control</td><td>2.0.0</td><td>4.0.0</td></tr>
<tr><td>Dec 2002</td><td>--</td><td>--</td><td>--</td><td>--</td><td>Cosmetics</td><td>4.0.0</td><td>4.0.1</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
</table>

CR-Form-v7

CHANGE REQUEST

✿	**32.312** CR **002**	✿**rev**	**-**	✿	Current version:	**5.0.1**	✿

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ✿ symbols.*

Proposed change affects: UICC apps✿ ☐   ME ☐   Radio Access Network **X** Core Network **X**

Title:	✿	Align with 32.102 and 32.311

Source:	✿	SA5 (Thomas.Tovinger@ericsson.com, Edwin.Tse@ericsson.com)

Work item code:✿	OAM-CM		**Date:** ✿	21/11/2003

Category:	✿	**A**		**Release:** ✿	Rel-5

Use one of the following categories:
 F *(correction)*
 A *(corresponds to a correction in an earlier release)*
 B *(addition of feature),*
 C *(functional modification of feature)*
 D *(editorial modification)*
Detailed explanations of the above categories can
be found in 3GPP TR 21.900.

Use one of the following releases:
 2   (GSM Phase 2)
 R96   (Release 1996)
 R97   (Release 1997)
 R98   (Release 1998)
 R99   (Release 1999)
 Rel-4   (Release 4)
 Rel-5   (Release 5)
 Rel-6   (Release 6)

Reason for change:	✿	1. Text in subclause 1:Scope is ambiguous.
		2. "Qualifiers" are defined in the standard IS template in 32.102 and should not be defined in 3.1 here.
		3. Some attribute names in the UML diagram in 5.2.1 don't correspond to the definitions in attribute tables, and the visibilityQualifier in the same diagram is shown with a value that is not an element of the valid set (it uses an old symbol for "private attribute").
		4. One attribute (iRPVersion) is wrongly spelled in the attribute table 5.3.1.2 (does not match the UML diagram and the real plural semantics).
		5. The attribute table in 5.3.1.2 does not follow the correct IS template in 32.102.
		6. Wrong definition of "IRPVersions" in 5.5.1 – should refer to the real definition in subclause 3.1 and TS 32.311.

Summary of change:	✿	1. Clarify the text in subclause 1:Scope.
		2. Remove "Qualifiers" from subclause 3.1.
		3. Correct spelling of attribute names and value of visibilityQualifier in the UML diagram in 5.2.1.
		4. Correct spelling of attribute 'iRPVersion' (->'iRPVersions').
		5. Add missing elements to the attribute table in 5.3.1.2.
		6. Correct the definition of "IRPVersions" in 5.5.1.
		7. Some editorial corrections.

Consequences if not approved:	✿	The specification would contain errors and ambiguities.

Clauses affected:	✿	1, 3, 5, 6.

		Y	N		
Other specs affected:	⌘		X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	

Other comments:	⌘	This is a mirror to a corresp. Rel4 CR, and both CRs should be approved together.

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

1 Scope

The purpose of the present document is to define a common service supported by all IRPs such as AlarmIRP. The present document is the "Information Service" part. It defines, for the purpose of supporting the common service, the information observable and controllable~~ed~~ by management system's client (i.e., IRPManager) via the Itf-N. ~~and i~~It also specifies the semantics of and the interactions used to carry this information.

With this common service supported by all IRPs, an IRPManager can retrieve the profile of operations and notifications supported by a given IRP name-contained ~~supported~~ by an IRPAgent. An IRPManager can also retrieve the IRPVersions~~different versions~~ supported by a given IRP.

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] and 3GPP TS 32.301-1 [3] and the following apply:

IRPAgent: See 3GPP TS 32.102 [2].

IRPManager: See 3GPP TS 32.102 [2].

IRP document version number string (or "IRPVersion"): See 3GPP TS 32.311 [5].

IRP: See 3GPP TS 32.102 [2].

Itf-N: See 3GPP TS 32.102 [2].

~~**qualifiers:** the meaning of qualifiers for operations, parameters and information attributes (whether they are Mandatory (M), Conditional(C) or Optional (O)) is provided in 3GPP TS 32.102 [2]. Moreover, qualifiers of information attributes, when those information attributes are re-used in other IRP ISs, obey to the following rule: Mandatory and Conditional qualifiers of information attributes shall always be the same in other IRPs ISs, Optional qualifiers of information attributes may be set to either Optional or Mandatory in the other IRP ISs.~~

5 Information Object Classes

5.1 Information entities imported and local labels

Label reference	Local label
3GPP TS 32.622 [4], information object class, GenericIRP	GenericIRP

5.2 Class Diagram

5.2.1 Attributes and relationships

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

Figure 3:

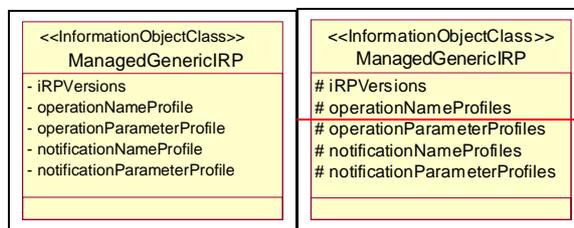### 5.2.2 Inheritance

This subclause depicts the inheritance relationships that exist between information object classes.
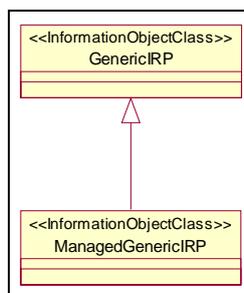

Figure 4:

5.3 Information object classes definition

5.3.1 ManagedGenericIRP

5.3.1.1 Definition

This information object represents a generic IRP which supports generic management capabilities. It inherits from IOC GenericIRP.

5.3.1.2 Attributes

Attribute name	Visibility	Support Qualifier	Read Qualifier	Write Qualifier
iIRPVersions	-	M	-	-
operationNameProfile	-	O	-	-
operationParameterProfile	-	O	-	-
notificationNameProfile	-	O	-	-
notificationParameterProfile	-	O	-	-

5.4 Information relationships definition

None

5.5 Information attributes definition

This subclause defines the semantics of the Attributes used in Information Object Classes.

5.5.1 Definitions and legal values

Attribute Name	Definition	Legal Values
iRPrpVersions	This attribute contains a set of IRPVersions. The set contains at least one element.	See definition "IRP document version number string" in subclause 3.1.Any value of the following format : "32.xyz Va.b"
operationNameProfile	This attribute contains a set of elements. The n-th element of this set contains the set of operation names supported for the IRPVersion identified in the n-th element of iRPrpVersions attribute.	
notificationNameProfile	This attribute contains a set of elements. The n-th element of this set contains the set of notification names supported for the IRPVersion identified in the n-th element of iRPrpVersions attribute.	
operationParameterProfile	This attribute contains a set of elements. The n-th element of this set contains the set of set of notification parameters supported by the operations identified in the n-th element of operationNameProfile attribute. The set of operation parameters are placed in the set in the same order as the order followed by the operation names in their set.	
notificationParameterProfile	This attribute contains a set of elements. The n-th element of this set contains the set of set of notification parameters supported by the notifications identified in the n-th element of notificationNameProfile attribute. The set of notification parameters are placed in the set in the same order as the order followed by the notification names in their set.	

6 Interface Definition

6.1 Class diagram representing interfaces

```
┌─────────────────────────────┐
│        <<Interface>>        │
│  GenericIRPVersionOperations │
├─────────────────────────────┤
│                             │
├─────────────────────────────┤
│ + getIRPVersion()           │
└─────────────────────────────┘
                            1
                                    ┌──────────────────────────────┐
                                    │  <<InformationObjectClass>>  │
                                    │       ManagedGenericIRP       │
                                    ├──────────────────────────────┤
                                    ├──────────────────────────────┤
┌─────────────────────────────┐    │                              │
│        <<Interface>>        │    └──────────────────────────────┘
│  GenericIRPProfileOperations │
├─────────────────────────────┤  0..1
├─────────────────────────────┤
│ + getOperationProfile()     │
│ + getNotificationProfile()  │
└─────────────────────────────┘
```
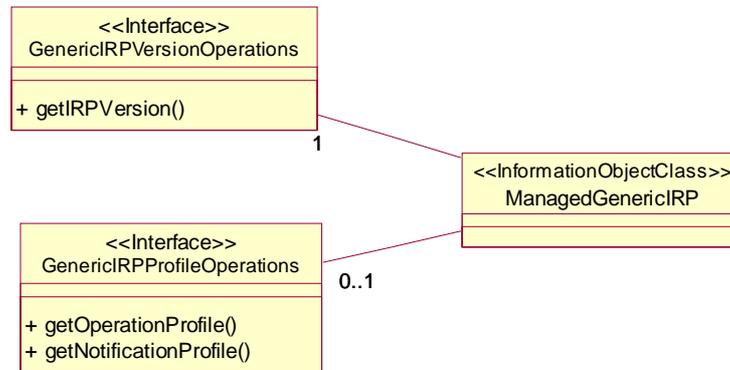
Figure 5:

6.2 Generic rules

- **Rule 1:** each operation with at least one input parameter supports a pre-condition valid_input_parameter which indicates that all input parameters shall be valid with regards to their information type. Additionally, each such operation supports an exception operation_failed_invalid_input_parameter which is raised when pre-condition valid_input_parameter is false. The exception has the same entry and exit state.

- **Rule 2:** Each operation with at least one optional input parameter supports a set of pre-conditions supported_optional_input_parameter_xxx where "xxx" is the name of the optional input parameter and the pre-condition indicates that the operation supports the named optional input parameter. Additionally, each such operation supports an exception operation_failed_unsupported_optional_input_parameter_xxx which is raised when (a) the pre-condition supported_optional_input_parameter_xxx is false and (b) the named optional input parameter is carrying information. The exception has the same entry and exit state.

- **Rule 3:** each operation shall support a generic exception operation_failed_internal_problem which is raised when an internal problem occurs and that the operation cannot be completed. The exception has the same entry and exit state.

6.3 genericIRPVersionOperations Interface

6.3.1 Operation `getIRPVersion` (M)

6.3.1.1 Definition

IRPManager wishes to find out the IRP SS versions supported by an IRP. The IRP shall respond with a set of supported IRP SS version(s). The list of returned IRP versions is such that the IRPManager can use any of these versions without having to specify an IRPVersion to the IRPAgent.

6.3.1.2 Input parameters

None

6.3.1.3 Output parameters

Parameter Name	Qualifier	Matching Information	Comment
versionNumberSet	M	ManagedGenericIRP.iRPVersions	It indicates one or more SS version numbers (IRPVersion, as defined by "IRP document version number string" in subclause 3.1) supported by the IRP.
status	M	ENUM (Operation succeeded, Operation failed)	If operation_failed_internal_problem status = OperationFailed.

6.3.1.4 Pre-condition

None specific.

6.3.1.5 Post-condition

None specific.

6.3.1.6 Exceptions

None specific.

6.4 genericIRPProfileOperations Interface

6.4.1 Operation getOperationProfile (O)

6.4.1.1 Definition

IRPManager invokes this operation to query the detailed profile of an IRP (supported operations and supported parameters) for a specific supported version. The notification profile will provide details about notifications that are specifically defined by this IRP.

6.4.1.2 Input parameters

Parameter Name	Qualifier	Information Type	Comment
iRPrpVersion	M	Element of ManagedGenericIRP.iRPVersions.	It contains a version number.

6.4.1.3 Output parameters

Parameter Name	Qualifier	Matching Information	Comment
operationNameProfile	M	Elements of ManagedGenericIRP.operationNameProfile corresponding to the iRPrpVersion parameter.	If this parameter contains no information, it implies that the IRP does not support any operation.
operationParameterProfile	M	Elements of ManagedGenericIRP.operationParameterProfile corresponding to the iRPrpVersion parameter.	
status	M	ENUM (Operation succeeded, Operation failed)	If operation_failed_invalid_version status = OperationFailed.

6.4.1.4 Pre-condition

validIRPVersion.

Assertion Name	Definition
validIRPVersion	T"the iRPrpVersion input parameter identifies a supported version contained in attribute iRPVersions of ManagedGenericIRP."

6.4.1.5 Post-condition

None specific.

6.4.1.6 Exceptions

Name	Definition
Operation_failed_invalid_version	**Condition:** validIRPVersion is false **Returned Information:** The output parameter status **Exit state:** Entry State

6.4.2 Operation getNotificationProfile (O)

6.4.2.1 Definition

IRPManager invokes this operation to query the detailed notification profile of an IRP (supported notifications and supported parameters) for a specific supported version. The notification profile will provide details about notifications that are specifically defined by this IRP. For example, if this IRP is notification IRP R4, then getNotificationProfile will not return any information since no notification are defined in notification IRP R4.

6.4.2.2 Input parameters

Parameter Name	Qualifier	Information Type	Comment
iRPrpVersion	M	Element of ManagedGenericIRP.iRPVersion	It contains a version number.

6.4.2.3 Output parameters

Parameter Name	Qualifier	Matching Information	Comment
notificationNameProfile	M	Element of ManagedGenericIRP.notificationNameProfile corresponding to the iRPrpVersion parameter.	If this parameter contains no information, it implies that the IRP does not support any notification.
notificationParameterProfile	M	Element of ManagedGenericIRP.notificationParameterProfile corresponding to the iRPrpVersion parameter.	
status	M	ENUM (Operation succeeded, Operation failed)	If operation_failed_invalid_version status = OperationFailed.

6.4.2.4 Pre-condition

validIRPVersion.

Assertion Name	Definition
validIRPVersion	T"the iRPrpVersion input parameter identifies a supported version contained in attribute iRPVersions of ManagedGenericIRP."

6.4.2.5 Post-condition

None specific.

6.4.2.6 Exceptions

Name	Definition
Operation_failed_invalid_version	**Condition:** validIRPVersion is false **Returned Information:** The output parameter status **Exit state:** Entry State

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End of Changes in Clause 5 and 6

END of changes

Annex A (informative):
Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
Jun 2001	S_12	SP-010285	--	--	Approved at TSG SA #12 and placed under Change Control	2.0.0	4.0.0
Mar 2002	S_15	--	--	--	Automatic upgrade to Rel-5 (no Rel-5 CR)	4.0.0	5.0.0
Dec 2002	--	--	--	--	Cosmetics	5.0.0	5.0.1