

**Source:** SA WG5

**Title:** CRs to Telecommunications Management; Fault Management;  
Part 3: Alarm Integration Reference Point: CORBA solution set  
version 1:1 (32.111-3)

**Document for:** Approval

**Agenda Item:** 7.5.3

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Doc-1st-Level	Doc-2nd-Level	Spec	CR	Rev	Phase	Cat	Subject	Version-Current	Version-New	Work item
SP-000521	S5-000472	32.111-3	001	1	R99	F	Allow "Structured Event Filterable Body Fields" to be absent if parameters are not used	3.2.0	3.3.0	OAM-FM
SP-000521	S5-000471	32.111-3	002	1	R99	F	Specific behaviour of the Iterator	3.2.0	3.3.0	OAM-FM
SP-000521	S5-000558	32.111-3	003		R99	F	Inconsistent qualifiers	3.2.0	3.3.0	OAM-FM



## 6 Use of OMG Structured Event

...

Table 11 lists all OMG Structured Event attributes in the second column. The first column identifies the SS attributes, if any, that shall be carried in the Structured Event attributes.

Attributes that are denoted as “optional” in subclause 5.4 of the present document may be absent from the OMG Structured Event. As an example, if the optional `monitoredAttributes` attribute is not used for a particular notification, then the `IRPAgent` may exclude `monitoredAttributes` from the filterable body fields for that particular notification. Individual notifications from the same `IRPAgent` may include or exclude the same optional attribute.

**Table 11: Use of OMG Structured Event**

SS Attribute	OMG CORBA Structured Event attribute	Comment
There is no corresponding SS attribute.	<code>domain_name</code>	It contains a string defined by interface <code>IRPNotificationCategoryValue.alarmIRPVersion_1_1</code> . It indicates the syntax and semantics of this Structured Event is defined by Alarm IRP: CORBA SS 1:1.
<code>eventType</code>	<code>type_name</code>	Attribute <code>eventType</code> is an attribute of <code>notificationHeader</code> . It shall indicate one of the following ITU-T defined semantics: communications alarm, processing error alarm, environmental alarm, quality of service alarm and equipment alarm. It is a string. See block of const string definitions starting with “ET_” in the IDL.
<code>extendedEventType</code>	<code>event_name</code>	Attribute <code>extendedEventType</code> is an attribute of <code>notificationHeader</code> . It shall identify one of the following: <ul style="list-style-type: none"> <li>• notify a new alarm</li> <li>• notify changes in alarm state</li> <li>• notify changes in alarm acknowledgement state</li> <li>• notify alarm cleared</li> <li>• notify Alarm List has been successfully rebuilt</li> </ul> It is a string. See block of const string definitions starting with “NOTIFY_FM_” in the IDL.
There is no corresponding SS attribute.	<code>variableHeader</code>	
<code>managedObjectClass</code> , <code>managedObjectInstance</code>	One NV pair of <code>filterable_body_fields</code>	NV stands for name-value pair. Order arrangement of NV pairs is not significant. The name of NV-pair is always encoded in string. They are attributes of <code>notificationHeader</code> . Name of NV pair is a string, <code>AttributeNameValue.managedObjectInstance</code> . Value of NV pair is a string. See corresponding table in Notification IRP: CORBA SS (3G TS 32.106-3 [11]).
<code>notificationId</code>	One NV pair of <code>filterable_body_fields</code>	It is an attribute of <code>notificationHeader</code> . Name of NV pair is a string, <code>AttributeNameValue.notificationId</code> . Value of NV pair is a long. See corresponding table in Notification IRP: CORBA SS (3G TS 32.106-3 [11]).
<code>eventTime</code>	One NV pair of <code>filterable_body_fields</code>	It is an attribute of <code>notificationHeader</code> . Name of NV pair is <code>AttributeNameValue.eventTime</code> . Value of NV pair is a <code>IRPTime</code> . See corresponding table in Notification IRP: CORBA SS (3G TS 32.106-3 [11]).
<code>systemDN</code>	One NV pair of <code>filterable_body_fields</code>	It is an attribute of <code>notificationHeader</code> . Name of NV pair is a string, <code>AttributeNameValue.systemDN</code> . Value of NV pair is a string. See corresponding table in Notification IRP: CORBA SS [11].

probableCause	One NV pair of filterable_body_fields	It is an attribute of alarmInformationBody. Name of NV pair is a string, AttributeNameValue.probableCause. Value of NV pair is a short defined by ProbableCauseValue.
perceivedSeverity	One NV pair of filterable_body_fields	It is an attribute of alarmInformationBody. Name of NV pair is a string, AttributeNameValue.perceivedSeverity. Value of NV pair is a short defined by PS_INDETERMINATE, PS_CRITICAL, etc.
specificProblem	One NV pair of filterable_body_fields	It is an attribute of alarmInformationBody. Name of NV pair is a string, AttributeNameValue.specificProblem. Value of NV pair is a string.
correlatedNotifications	One NV pair of filterable_body_fields	It is an attribute of alarmInformationBody. Name of NV pair is a string, AttributeNameValue.correlatedNotifications. Value of NV pair is a CorrelatedNotificationSetType.
backedUpStatus	One NV pair of filterable_body_fields	It is an attribute of alarmInformationBody. Name of NV pair is a string, AttributeNameValue.backedUpStatus. Value of NV pair is a boolean BackedUpStatusType.
backUpObject	One NV pair of filterable_body_fields	It is an attribute of alarmInformationBody. Name of NV pair is a string, AttributeNameValue.backedUpStatus. Value of NV pair is a string carrying of DN of the back-up object. See 3G TS 32.106-8 [8] for the DN string representation.
trendIndication	One NV pair of filterable_body_fields	It is an attribute of alarmInformationBody. Name of NV pair is a string, AttributeNameValue.trendIndication. Value of NV pair is an enum TrendIndicationType.
thresholdInfo	One NV pair of filterable_body_fields	It is an attribute of alarmInformationBody. Name of NV pair is a string, ParameterNameValue.thresholdInfo. Value of NV pair is an enum ThresholdIndicationType.
stateChangeDefinition	One NV pair of filterable_body_fields	It is an attribute of alarmInformationBody. Name of NV pair is a string, AttributeNameValue.stateChangeDefinition. Value of NV pair is an AttributeChangeSetType.
monitoredAttributes	One NV pair of filterable_body_fields	It is an attribute of alarmInformationBody. Name of NV pair is a string, AttributeNameValue.monitoredAttributes. Value of NV pair is an AttributeSetType.
proposedRepairActions	One NV pair of filterable_body_fields	It is an attribute of alarmInformationBody. Name of NV pair is a string, AttributeNameValue.proposedRepairActions. Value of NV pair is a string.
additionalText	One NV pair of filterable_body_fields	It is an attribute of alarmInformationBody. Name of NV pair is a string, AttributeNameValue.additionalText. Value of NV pair is a string.
additionalInformation.alarmId	One NV pair of filterable_body_fields	It is an attribute of alarmInformationBody. Name of NV pair is a string, AttributeNameValue.alarmId. Value of NV pair is a string.  If the string is a zero-length string or if this NV pair is absent, the default semantics is that alarmId is a concatenation of managedObjectInstance, eventType, probableCause and specificProblem, if present, of this Structured Event. Since probableCause is encoded as a short, it shall be converted into string before concatenation. The resultant string shall not contain spaces.
additionalInformation.	One NV pair of filterable_	It is an attribute of notificationHeader. Name of NV pair is a string, AttributeNameValue.ackTime.

ackTime	body_fields	Value of NV pair is a IRPTime.
additional Information. ackUserId	One NV pair of filterable_ body_fields	It is an attribute of alarmInformationBody. Name of NV pair is a string, AttributeNameValue.ackUserId. Value of NV pair is a string.
additional Information. ackSystemId	One NV pair of filterable_ body_fields	It is an attribute of alarmInformationBody. Name of NV pair is a string, AttributeNameValue.ackSystemId. Value of NV pair is a string.
additional Information. ackState	One NV pair of filterable_bod y_fields	It is an attribute of alarmInformationBody. Value of NV pair is a short defined by ACK_STATE_ACKNOWLEDGED and ACK_STATE_UNACKNOWLEDGED. Value of NV pair is a short defined by AlarmAckState.
There is no corresponding SS attribute.	remaining_ body	

<b>CHANGE REQUEST</b>		<i>Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.</i>	
<b>32.111-3</b>	<b>CR</b>	<b>002R1</b>	Current Version: <b>V3.2.0</b>
<i>GSM (AA.BB) or 3G (AA.BBB) specification number ↑</i>		<i>↑ CR number as allocated by MCC support team</i>	
For submission to: <b>SA#10</b>	for approval <input checked="" type="checkbox"/>	strategic <input type="checkbox"/>	<i>(for SMG use only)</i>
<i>list expected approval meeting # here ↑</i>	for information <input type="checkbox"/>	non-strategic <input type="checkbox"/>	

Form: CR cover sheet, version 2 for 3GPP and SMG      The latest version of this form is available from: <ftp://ftp.3gpp.org/Information/CR-Form-v2.doc>

**Proposed change affects:**      (U)SIM       ME       UTRAN / Radio       Core Network   
*(at least one should be marked with an X)*

**Source:**      SA5#15      **Date:**      20/10/2000

**Subject:**      Specific behaviour for the **Iterator**

**Work item:**      OAM-FM

<b>Category:</b>	F Correction <input checked="" type="checkbox"/> A Corresponds to a correction in an earlier release <input type="checkbox"/> B Addition of feature <input type="checkbox"/> C Functional modification of feature <input type="checkbox"/> D Editorial modification <input type="checkbox"/>	<b>Release:</b>	Phase 2 <input type="checkbox"/> Release 96 <input type="checkbox"/> Release 97 <input type="checkbox"/> Release 98 <input type="checkbox"/> Release 99 <input checked="" type="checkbox"/> Release 00 <input type="checkbox"/>
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*(only one category shall be marked with an X)*

**Reason for change:**      The current text describing the **Iterator** is ambiguous in that it provides many possible behaviours for the **Iterator**.  
  
The reason for change is to specify one specific behaviour for the **Iterator**.

**Clauses affected:**      Annex A

<b>Other specs affected:</b>	Other 3G core specifications <input type="checkbox"/> Other GSM core specifications <input type="checkbox"/> MS test specifications <input type="checkbox"/> BSS test specifications <input type="checkbox"/> O&M specifications <input type="checkbox"/>	→ List of CRs: → List of CRs: → List of CRs: → List of CRs: → List of CRs:	
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**Other comments:**

## Annex A (normative): IDL specification

...

```

module AlarmIRPSystem {

    /*
    System fails to complete the operation. System provides
    reasons whose semantics is outside the scope of this IRP.
    */

    exception AcknowledgeAlarms { string reason; };
    exception UnacknowledgeAlarms { string reason; };
    exception GetAlarmList { string reason; };
    exception GetAlarmIRPVersion { string reason; };
    exception GetAlarmCount { string reason; };
    exception ParameterNotSupported { string parameter; };
    //name of the unsupported parameter as defined in IDL.
    exception InvalidParameter { string parameter; };
    //name of the parameter as defined in IDL
    exception OperationNotSupported {};
    exception NextAlarmInformations { string reason; };

    /**
    The AlarmInformationIterator is used to iterate through a snapshot of
    Alarm Informations taken from the Alarm List when IRPManager invokes
    get_alarm_list. IRPManager uses it to pace the return of Alarm
    Informations.

    IRPAgent controls the life-cycle of the iterator. However, a destroy
    operation is provided to handle the case where IRPManager wants to stop
    the iteration procedure before reaching the last iteration. The
    AlarmInformationIterator is used to iterate through a set of Alarm
    Informations in Alarm List. Method get_alarm_list contains it as
    output parameter.
    IRPManager uses it to pace the return of Alarm Informations. IRPManager
    cannot use it to pace when IRPAgent should retrieve Alarm Informations
    from Alarm List.
    */

    interface AlarmInformationIterator {

        /**
        This method returns between 1 and "how_many" Alarm Informations. The
        IRPAgent may return less than "how_many" items even if there are more
        items to return. "how_many" must be non-zero. Return TRUE if there
        may be more Alarm Information to return. Return FALSE if there are no
        more Alarm Information to be returned.

        If FALSE is returned, the IRPAgent will automatically destroy the
        iterator. This method returns up to "how_many" Alarm
        Informations.
        If 1 or more Alarm Information is returned, return TRUE.
        Return FALSE if there is no more Alarm Information to be returned.
        */

        boolean next_alarmInformations (
            in unsigned long_short how_many,
            out AlarmIRPConstDefs::AlarmInformationSeq alarm_informations
        )
        raises (NextAlarmInformations,InvalidParameter);
    }
}

```

## CHANGE REQUEST

⌘ **32.111-3 CR 003** ⌘ rev **-** ⌘ Current version: **3.2.0** ⌘

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

**Proposed change affects:** ⌘ (U)SIM  ME/UE  Radio Access Network  Core Network

<b>Title:</b>	⌘ Inconsistent qualifiers		
<b>Source:</b>	⌘ SA5#16		
<b>Work item code:</b>	⌘ OAM-FM	<b>Date:</b>	⌘ 01/12/2000
<b>Category:</b>	⌘ <b>F</b>	<b>Release:</b>	⌘ <b>R99</b>
	Use <u>one</u> of the following categories: <b>F</b> (essential correction) <b>A</b> (corresponds to a correction in an earlier release) <b>B</b> (Addition of feature), <b>C</b> (Functional modification of feature) <b>D</b> (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)

**Reason for change:** ⌘ There are two inconsistencies regarding qualifiers in 32.111-3:

1. The managedObjectClass is defined as "Optional" in the CORBA solution set but "Mandatory" in the Information Service (IS) in 32.111-2. 32.102 stipulates that it shall be qualified in the same way in the solution set as in the IS.
2. Table 9 defines systemDN as mandatory. The managedObjectClass is (as mentioned above) also mandatory. However, both systemDN and managedObjectClass are specified as possibly absent in table 8. This is not correct. This CR proposes that it shall be corrected by giving the notification header in table 8 a similar definition as in table 7.

**Summary of change:** ⌘ The error regarding the managedObjectClass is corrected by changing the qualifier in table 9 from O to M. The errors in table 8 are corrected by giving the notification header in table 8 a similar definition as in table 7.  
 NOTE: A few editorial changes have been made as well. Some text in table 8 has been aligned with table 7 for clarification.

**Consequences if not approved:** ⌘ Different system might handle the inconsistency in different ways, and by doing so loose interoperability.

**Clauses affected:** ⌘ 5.3 and 5.4

**Other specs affected:** ⌘  Other core specifications ⌘   Test specifications  O&M Specifications

**Other comments:** ⌘



## 5.3 Notification parameter mapping

Reference 3GPP TS 32.111-2 [13] defines semantics of parameters carried in notifications across the Alarm IRP. Table 7 and table 8 indicate the mapping of these parameters, as per notification, to their equivalents defined in this SS.

Table 7 and table 8 are relevant for `notifyNewAlarm`, `notifyChangedAlarm`, `notifyClearedAlarm`, `notifyAckStateChanged`.

**Table 7: Mapping from IS `notify[New,Changed,Cleared]Alarm` and `notifyAckStateChanged` parameters to SS equivalents**

IS Notification parameter	SS Notification parameter	Comment
notification Header	structuredEvent Note that OMG Notification Service [6] defines this structuredEvent. See Clause 4 as well.	Attributes of <code>notificationHeader</code> are mapped to attributes of <code>structuredEvent</code> . See clause 65.4 for attributes related to <code>notificationHeader</code> . See Table 9 for qualifiers for the parameter-attributes. For <code>notifyNewAlarm</code> , <code>notifyChangedAlarm</code> , <code>notifyClearedAlarm</code> and <code>notifyAckStateChanged</code> , the <code>extendedEventType</code> shall contain a string of <code>extendedEventTypeValue.NOTIFY_FM_NEW_ALARM</code> , <code>extendedEventTypeValue.NOTIFY_FM_CHANGED_ALARM</code> , <code>extendedEventTypeValue.NOTIFY_FM_CLEARED_ALARM</code> , <code>extendedEventTypeValue.NOTIFY_FM_ACK_STATE_CHANGED</code> respectively.
alarm Information Body	structuredEvent	Attributes of <code>alarmInformationBody</code> are mapped to attributes of <code>structuredEvent</code> . See clause 56.4 for attributes related to <code>alarmInformationBody</code> . See table 10 for qualifiers for the parameter-attributes.

Table 8 is relevant for `notifyAlarmListRebuilt`.

**Table 8: Mapping from IS `notifyAlarmListRebuilt` parameters to SS equivalents**

IS Notification parameter	SS equivalent	Comment
notification Header	structured Event	Attributes of <code>notificationHeader</code> are mapped to attributes of <code>structuredEvent</code> . See clause 5.4 for attributes related to <code>notificationHeader</code> . See Table 9 for qualifiers for the parameter-attributes. <del>The <code>managedObjectClass</code>, <code>systemDN</code> shall be absent.</del> The <code>eventType</code> shall contain a zero-length string. The <code>extendedEventType</code> shall contain a string of <code>extendedEventTypeValue.NOTIFY_FM_ALARM_LIST_REBUILT</code> . The <code>managedObjectInstance</code> shall carries the DN of the IRPAgent whose Alarm List has been rebuilt. Syntax and semantics of this string conform to the Managed Object string representation specified in [8]. <del>See clause 6.4 for attributes related to <code>notificationHeader</code>.</del> See Table 9 for qualifiers for the parameter-attributes.
reason	reason	It is a string indicating the Alarm List rebuilt reason.

## 5.4 Parameter Attribute mapping

Notification IRP: IS 3GPP TS 32.106-2 [10] defines the semantics of attributes for `notificationHeader` parameter. Alarm IRP: IS 3GPP TS 32.111-2 [13] identifies `notificationHeader` for use for its IRP. 3GPP TS 32.111-2 [13] also qualifies the attributes of the `notificationHeader` parameter. Table 9 shows the mapping of these IS attributes to SS equivalents.

**Table 9: Mapping from IS `notificationHeader` attributes to SS equivalents**

IS Attribute of <code>notificationHeader</code> in [10]	SS Attribute	Qualifier
<code>managedObjectClass</code>	<code>managedObjectClass</code>	OM
<code>managedObjectInstance</code>	<code>managedObjectInstance</code>	M
<code>notificationID</code>	<code>notificationID</code>	M
<code>eventTime</code>	<code>eventTime</code>	M
<code>systemDN</code>	<code>systemDN</code>	M
<code>eventType</code>	<code>eventType</code>	M
<code>extendedEventType</code>	<code>extendedEventType</code>	M