
Source: SA5 (Telecom Management)
Title: 2 Rel-6 CR 32.412 (PM IRP IS)
Document for: Decision
Agenda Item: 7.5.3

Doc-1st-	Spec	CR	R	Phas	Subject	Cat	Ver	Doc-2nd-	Workitem
SP-040272	32.412	001	-	Rel-6	Clarify and correct the specification of notifications of Monitor	F	6.0.0	S5-046495	OAM-PM
SP-040272	32.412	002	-	Rel-6	Add constraint that PM threshold hysteresis must be positive	F	6.0.0	S5-046501	OAM PM

CHANGE REQUEST

⌘ **32.412 CR 001** ⌘ rev - ⌘ Current version: **6.0.0** ⌘

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Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	⌘ Clarify and correct the specification of notifications of Monitor		
Source:	⌘ SA5 (edwin.tse@ericsson.com)		
Work item code:	⌘ OAM-PM	Date:	⌘ 14/05/2004
Category:	⌘ F	Release:	⌘ Rel-6
	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:	⌘ Eliminate the wrong specification that the object class and object instance parameters of threshold alarm notification carry the class and the DN of Monitor.
Summary of change:	⌘ Remove notifyNewAlarm, notifyClearedAlarm and notifyChangedAlarm from the notification table of Monitor. Add text to clarify that the objectClass and objectInstance of notifyNewAlarm, notifyChangedAlarm and notifyClearedAlarm carry the class and DN of the ManagedEntity instance.
Consequences if not approved:	⌘ IRPManager cannot correctly understand the meaning carried by the object class and object instance parameters of threshold alarm notification.

Clauses affected:	⌘ 6.3.8.										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Y</td> <td style="padding: 2px;">N</td> </tr> <tr> <td style="padding: 2px;"></td> <td style="padding: 2px;">X</td> </tr> <tr> <td style="padding: 2px;"></td> <td style="padding: 2px;">X</td> </tr> <tr> <td style="padding: 2px;">X</td> <td style="padding: 2px;"></td> </tr> </table>	Y	N		X		X	X		Other core specifications	⌘ 32.413 (see other comments)
	Y	N									
		X									
	X										
X											
	X	Test specifications									
	X	O&M Specifications									
Other comments:	⌘ Rel-6 child CR 32.413 CORBA SS will be supplied at the next SA meeting.										

Change in Clause 6.3.8

6.3.8 Monitor

6.3.8.1 Definition

It represents a capability to determine the threshold-crossing or threshold-reaching and threshold-clearing. This class is abstract in that it cannot be instantiated. The `ThresholdMonitor` inherits this class.

The instances of a class derived from this abstract class shall emit `notifyObjectCreation` when they are first created; and shall emit a `notifyObjectDeletion` when deleted.

The instances of a class derived from this abstract class shall also emit `notifyNewAlarm`, `notifyChangedAlarm` and `notifyClearedAlarm` according to the rules specified in Annex B: Threshold Alarm Triggering Events. [The `objectClass` and `objectInstance` parameter of these notifications carry the class and DN of the `ManagedEntity` whose `measurementType` is being monitored and whose threshold condition has been triggered.](#)

6.3.8.2 Attribute

Attribute name	Visibility	Support Qualifier	Read Qualifier	Write Qualifier
<code>monitorId</code>	+	M	M	-
<code>monitorGranularityPeriod</code>	+	M	M	-
<code>eventType</code>	+	M	M	-
<code>probableCause</code>	+	M	M	-
<code>specificProblem</code>	+	M	M	-
<code>direction</code>	+	M	M	-

6.3.8.3 Notification

Notification name	Note
<code>notifyObjectCreation</code>	See clause 7.1 (class diagram).
<code>notifyObjectDeletion</code>	See clause 7.1 (class diagram).
<code>notifyNewAlarm</code>	See clause 7.1 (class diagram)
<code>notifyChangedAlarm</code>	See clause 7.1 (class diagram)
<code>notifyClearedAlarm</code>	See clause 7.1 (class diagram)

End of change in Clause 6.3.8

Annex C (informative):
Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
Jun 2003	S_20	SP-030295	--	--	Submitted to TSG SA#20 for Information	1.0.0	
Dec 2003	S_22	SP-030650	--	--	Submitted to TSG SA#22 for Approval	2.0.0	6.0.0

CHANGE REQUEST

⌘ **32.412 CR 002** ⌘ rev **-** ⌘ Current version: **6.0.0** ⌘

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

Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	⌘	Add constraint that PM threshold hysteresis must be positive
Source:	⌘	SA5 Huawei Technologies Co Ltd (veronica.ayers@huawei.com)
Work item code:	⌘	OAM PM
		Date: ⌘ 14/05/2004
Category:	⌘	F
		<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Use <u>one</u> of the following categories:</p> <p>F (correction)</p> <p>A (corresponds to a correction in an earlier release)</p> <p>B (addition of feature),</p> <p>C (functional modification of feature)</p> <p>D (editorial modification)</p> <p>Detailed explanations of the above categories can be found in 3GPP TR 21.900.</p> </div> <div style="width: 45%;"> <p>Use <u>one</u> of the following releases:</p> <p>2 (GSM Phase 2)</p> <p>R96 (Release 1996)</p> <p>R97 (Release 1997)</p> <p>R98 (Release 1998)</p> <p>R99 (Release 1999)</p> <p>Rel-4 (Release 4)</p> <p>Rel-5 (Release 5)</p> <p>Rel-6 (Release 6)</p> </div> </div>

Reason for change:	⌘	Hysteresis can be defined independantly for each threshold and there are no constraints on its sign. Therefore it can be either positive or negative and the high and low threshold values are either thresholdValue +hysteresis or thresholdValue – hysteresis depending upon whether hysteresis is positive or negative.
Summary of change:	⌘	Hysteresis is constrained to be positive so that threshold high = thresholdValue + hysteresis, threshold low = thresholdValue – hysteresis.
Consequences if not approved:	⌘	The implementation is either unnecessarily complex or incorrect.

Clauses affected:	⌘	6.5.1				
Other specs affected:	⌘	<table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20px;">Y</td> <td style="width: 20px;">N</td> </tr> <tr> <td style="border: none;"> </td> <td style="border: none;">X</td> </tr> </table> Other core specifications ⌘	Y	N		X
Y	N					
	X					
		<table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <tr> <td style="border: none;"> </td> <td style="border: none;">X</td> </tr> </table> Test specifications ⌘		X		
	X					
		<table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <tr> <td style="border: none;"> </td> <td style="border: none;">X</td> </tr> </table> O&M Specifications ⌘		X		
	X					
Other comments:	⌘	This CR only applies to Rel-6, because the feature is not supported in earlier releases.				

Change in Clause 6.5.1

6.5.1 Definition and legal values

Attribute Name	Definition	Legal Values
direction	<p>For some measurementType, the higher its thresholdValue, the higher is the thresholdSeverity. For others, the lower its thresholdValue, the higher is its thresholdSeverity. This attribute identifies if the measurementType is of the former (i.e. "Increasing") or latter type (i.e. "Decreasing"). If it is "Increasing", the threshold event is triggered when the value first equals or exceeds (when compared against the last read value) a threshold value. The threshold is said to be cleared when the measurementType value falls below (when compared against the last read value) one or more threshold values.</p> <p>If it is "Decreasing", the threshold event is triggered when the measurementType value first equals or falls below one or more threshold values. The threshold is said to be cleared when the measurementType value rises above the threshold value.</p> <p>See annex B (Threshold Related Performance Alarm Triggering Events) for details of the behaviour of multiple thresholds.</p>	Possible values are: "Increasing", "Decreasing"
eventType	It identifies the event type carried by the performance alarm.	The value is "Quality of Service Alarm". See 3GPP TS 32.111-2 [4].
hysteresis	<p>A threshold has a value. It can have a hysteresis. A threshold with a hysteresis has a threshold-high and a threshold-low value that are different from the threshold value.</p> <p>A hysteresis, therefore, defines the threshold-high and threshold-low levels within which the measurementType value is allowed to oscillate without triggering a threshold-crossing or threshold-reaching or threshold-clearing condition.</p> <p>threshold-high = threshold + hysteresis threshold-low = threshold - hysteresis</p> <p>See annex B (Threshold Related Performance Alarm Triggering Events).</p>	Any positive value
jobGranularityPeriod	It specifies the period between two successive measurements.	<p>The value can be 5 minutes, 15 minutes, 30 minutes, 1 hours, 12 hours and 24 hours.</p> <p>The minimum granularity period is 5 minutes in most cases, but for some measurements it may only make sense to collect data in a larger granularity period.</p>
jobId	It identifies the MeasurementJob instance (and distinguishes it from all other existing and stopped MeasurementJob instances of the PMIRP Agent).	<p>Any identifier except:</p> <ol style="list-style-type: none"> 1. Those that identify MeasurementJob instances whose MeasurementJob.jobStatus (s) are Scheduled, Active, Suspended or Stopped; and 2. Those that appear in filenames of files ready for IRPManager retrieval.
jobListId	It identifies the singleton MeasurementJobList of the PMIRP Agent.	Any identifier.
jobReportingPeriod	It specifies the period between two successive emissions of notifyFileReady or	Its value should be one or multiple of jobGranularityPeriod.

Attribute Name	Definition	Legal Values
	notifyFilePreparationError [10]. The two notifications are related to the same Job. See constraints reportTime in clause 6.5.2.	
jobSchedule	It specifies the detailed time frames during which the MeasurementJob. jobStatus = Active and its substate = Busy.	Its value is only one of the following, dailyScheduling or weeklyScheduling. The legal values for them refer to ITU-T Recommendation X.721 [3]. The legal values for them are as follows. dailyScheduling: { { intervalStart {hour 0, minute 0}, intervalEnd {hour 23, minute 59}}} weeklyScheduling: { { daysOfWeek '1111111'B, intervalsOfDay dailyScheduling}}
jobStartTime	It specifies the begin time from which the MeasurementJob will be active.	All values that indicate valid timestamp.
jobStatus	It specifies the status of MeasurementJob.	Its value should be one of the following: Scheduled, Active, Suspended Stopped
jobStopTime	It specifies the end time after which the MeasurementJob will be stopped.	All values that indicate valid timestamp and it should be later than jobStartTime.It's not necessary that jobStartTime and jobStopTime specifies time within the same day. This attribute may carry the value "indefinitely".
measurementResultValue	It identifies the value of a measurement type.	Any valid measurement result value.
measurementTypeName	It identifies a name of one measurement type whose value is being collected and monitored.	Any valid measurement type name as defined by the measurement definition template in 3GPP TS 32.403 [14].
monitorGranularityPeriod	It specifies the period between two successive reading of the thresholdValue to determine threshold-crossing or threshold-reaching and threshold-clearing.	It can be 5 minutes, 15 minutes, 30 minutes, 1 hour, 12 hours or 24 hours. It has to be a multiple of the jobGranularityPeriod if the MeasurementJob monitoring the same measurementType exists.
monitorId	It identifies the ThresholdMonitor instance (and distinguishes it from all other existing ThresholdMonitor instances of the PMIRP Agent).	Any identifier except those that are currently used.
monitorListId	It identifies the singleton ThresholdMonitorList in the PMIRP Agent.	Any identifier.
probableCause	It identifies the probable cause (of the threshold crossing or reaching) carried by the threshold crossing or reaching alarm.	"Threshold Crossed"
thresholdSeverity	It identifies the thresholdSeverity of the threshold crossing or reaching event.	Warning, Minor, Major, Critical
specificProblem	It identifies the specific problem (causing the threshold crossing or reaching) carried by the threshold crossing or reaching alarm.	Any valid specificProblem as defined by 3GPP TS 32.111-2 [4].
thresholdMonitorStatus	It specifies the current status of the ThresholdMonitor.	Active - ThresholdMonitor is working; Suspended - ThresholdMonitor is suspended.
thresholdValue	It defines the threshold value of the monitored measurementTypes. If the value is crossed or reached, the performance alarm shall be emitted depending on the value of the thresholdMonitorStatus.	If the monitored measurementType is of Gauge type, this thresholdValue shall be of the same type. If the monitored measurementType is of counter type, then this value should be expressed as a rate, i.e., the number of units of type of the monitored measurementType over unit of time.

Attribute Name	Definition	Legal Values
		Note this rate is independent from the monitorGranularityPeriod. This means that changes in the monitorGranularityPeriod should not impact the rate used for threshold monitoring.

End of Change in Clause 6.5.1

Annex C (informative): Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
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