3GPP TSG SA WG5 Meeting 137-e S5-213159

electronic meeting, online, 10 - 19 May 2021

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **28.532** | **CR** | **0176** | **rev** | **-** | **Current version:** | **16.7.1** |  |
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| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network | **X** | Core Network | **X** |

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| ***Title:*** | Update clause 11.2.2 Managed information for fault supervision management service | | | | | | | | | |
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| ***Source to WG:*** | S5 | | | | | | | | | |
| ***Source to TSG:*** | Huawei,China Mobile | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI16 | | | | |  | ***Date:*** | | | 2021-04-26 |
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| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-16 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change 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](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
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| ***Reason for change:*** | | In clause 11.2.2.1.5.1, following issues are obesered and needs to be corrected:   1. No concrete reference number for ITU-T Recommendation X.733 [x] 2. The term “Itf-N” is stilled used in the description of “additionalInformation” is not applicable for eSBMA. | | | | | | | | |
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| ***Summary of change:*** | | 1. Add concrete reference number for ITU-T Recommendation X.733 [x] 2. Change the term “Itf-N” to “MnS” | | | | | | | | |
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| ***Consequences if not approved:*** | | Several issues exist in the published specification. | | | | | | | | |
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| ***Clauses affected:*** | | 11.2.2.1.5.1 | | | | | | | | |
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|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
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| ***Other comments:*** | | No stage 3 (OpenAPI or YANG) impact. | | | | | | | | |
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| ***This CR's revision history:*** | |  | | | | | | | | |

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| **1st Change** |

##### 11.2.2.1.5 Information attribute definition

###### 11.2.2.1.5.1 Definition and legal values

| **Name** | **Definition** | **Legal Values** |
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| alarmId | It identifies one AlarmInformation in the AlarmList. |  |
| notificationId | It identifies the notification that carries the AlarmInformation. |  |
| alarmRaisedTime | It indicates the date and time when the alarm is first raised by the alarmed resource. | All values indicating valid date and time. |
| alarmChangedTime | It indicates the last date and time when the AlarmInformation is changed by the alarmed resource. Changes to AlarmInformation caused by invocations of the management service consumer would not change this date and time. | All values indicating valid date and time. |
| alarmClearedTime | It indicates the date and time when the alarm is cleared. | All values indicating valid date and time. |
| alarmType | It indicates the type of alarm.  Communications Alarm:  An alarm of this type is associated with the procedure and/or process required conveying information from one point to another (ITU-T Recommendation X.733 [4]).  Processing Error Alarm:  An alarm of this type is associated with a software or processing fault (ITU T Recommendation X.733 [4]).  Environmental Alarm:  An alarm of this type is associated with a condition related to an enclosure in which the equipment resides (ITU-T Recommendation X.733 [4]).  Quality of Service Alarm:  An alarm of this type is associated with degradation in the quality of a service (ITU T Recommendation X.733 [4]).  Equipment Alarm:  An alarm of this type is associated with an equipment fault (ITU-T Recommendation X.733 [4]).  Integrity Violation:  An indication that information may have been illegally modified, inserted or deleted.  Operational Violation:  An indication that the provision of the requested service was not possible due to the unavailability, malfunction or incorrect invocation of the service.  Physical Violation:  An indication that a physical resource has been violated in a way that suggests a security attack.  Security Service or Mechanism Violation:  An indication that a security attack has been detected by a security service or mechanism.  Time Domain Violation: An indication that an event has occurred at an unexpected or prohibited time. |  |
| probableCause | It qualifies alarm and provides further information than alarmType. Probable causes are ouside the scope of the present document. |  |
| specificProblem | It provides further refinement to the probableCause. This attribute value shall be single-valued and of simple type such as integer or string. See definition in ITU-T Recommendation X.733 [4] clause 8.1.2.2. | Provided by vendor. |
| perceivedSeverity | It indicates the relative level of urgency for operator attention. | Critical, Major, Minor, Warning, Indeterminate, Cleared: see ITU-T Recommendation X.733 [4]. The present document does not recommend the use of indeterminate. |
| backedUpStatus | It indicates if an object (the MonitoredEntity) has a back up. See definition in ITU-T Recommendation X.733 [4] clause 8.1.2.4. | All values that carry the semantics of backedUpStatus defined by ITU-T X.733 [4] clause 8.1.2.4. |
| trendIndication | It indicates if some observed condition is getting better, worse, or not changing. | "Less severe", "no change", "more severe": see definition in ITU-T Recommendation X.733 [4] clause 8.1.2.6. |
| thresholdInfo | It indicates the crossed threshold information such as:  - The identifier of the monitored attribute whose value has crossed a threshold,  - The threshold settings,  - The observed value that have crossed a threshold, etc.  See definition in ITU-T Recommendation X.733 [4] clause 8.1.2.7. See also for information in TS 32.401 [19] clause 5.6. |  |
| stateChangeDefinition | It indicates attribute value changes associated with the alarm for state attributes of the monitored entity (state transitions). The change is reported with the name of the state attribute, the new value and an optional old value. See definition in ITU-T Recommendation X.733 [4] clause 8.1.2.11. |  |
| monitoredAttributes | It indicates attributes of the monitored entity and their values at the time the alarm occurred that are of interest for the alarm report. How these attributes are chosen is outside of the scope of the present document. See definition in ITU-T Recommendation X.733 [4] clause 8.1.2.11. |  |
| proposedRepairActions | Used if the cause is known and the system being managed can suggest one or more solutions to fix the problem causing the alarm as defined in ITU-T Rec. X. 733 [4] |  |
| additionalText | Allows a free form text description to be reported as defined in ITU-T Rec. X. 733 [4]. | N/A |
| additionalInformation | This attribute when present allows the inclusion of a set of vendor specific alarm information in the alarm.  A specific condition for this optional population is when an alarm presented by the Management System (e.g. via the user interface) has different values of perceived severity, and / or alarm type, compared with the values presented to the MnS.  Any other uses of additional information on the alarm and its semantics is outside the scope of the present document | The additional information field is a list of one or more information parts.  The present document allows the support of two such information parts to carry  - vendor defined perceived severity  - vendor defined alarm type  using defined identification.  Other vendor specific information parts are allowed by using vendor specific identifications. |
| rootCauseIndicator | It indicates that this AlarmInformation is the root cause of the events captured by the notifications whose identifiers are in the related CorrelatedNotification instances. | boolean |
| ackTime | It identifies the time when the alarm has been acknowledged or unacknowledged the last time, i.e. it registers the time when ackState changes. | All values that indicate valid time that are later than that carried in alarmRaisedTime. |
| ackUserId | It identifies the last user who has changed the acknowledgement state. | It can be used to identify the human operator such as "John Smith" or it can identify a group, such as "Team Six", or it can contain no information such as "". |
| ackSystemId | It identifies the system that last changed the ackState of an alarm, i.e. acknowledged or unacknowledged the alarm. | It can be used to identify the system, such as "system 6" or it can contain no information such as "". |
| ackState | It identifies the acknowledgement state of an alarm. | Acknowledged: the alarm has been acknowledged.  Unacknowledged: the alarm has been unacknowledged or the alarm has never been acknowledged. |
| commentTime | It carries the time when the comment has been added to the alarm. |  |
| commentText | It carries the textual comment. |  |
| commentUserId | It carries the identification of the user who made the comment. |  |
| commentSystemId | It carries the identification of the system (Management System) from which the comment is made. That system supports the user that made the comment. |  |
| clearUserId | It carries the identity of the user who invokes the clearAlarms operation. | It can be used to identify the human operator such as "John Smith" or it can identify a group, such as "Team Six", or it can contain no information such as "". |
| clearSystemId | It carries the identity of the system in consuming the fault management service. That management service consumer supports the user who invokes the clearAlarms operation. | It can be used to identify the system, such as "system 6" or it can contain no information such as "". |
| serviceUser | It identifies the service-user whose request for service provided by the serviceProvider led to the generation of the security alarm. | This attribute may carry no information if the server user is not identifiable. |
| serviceProvider | It identifies the service-provider whose service is requested by the serviceUser and the service request provokes the generation of the security alarm. |  |
| securityAlarmDetector | It carries the identity of the detector of the security alarm. | This attribute may carry no information if the security alarm detector is not identifiable. |
| sourceObjectInstance | It identifies one MonitoredEntity. | All values that carry the semantics of DN. |
| notificationIdSet | It carries one or more notification identifiers. |  |

###### 11.2.2.1.5.2 Constraints

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| **Name** | **Definition** |
| inv\_alarmChangedTime | Time indicated shall be later than that carried in alarmRaisedTime. |
| inv\_alarmClearedTime | Time indicated shall be later than that carried in alarmRaisedTime. |
| inv\_ackTime | Time indicated shall be later than that carried in alarmRaisedTime. |
| inv\_notificationId | NotificationIds shall be chosen to be unique across all notifications of a particular Managed Object throughout the time that alarm correlation is significant. The algorithm by which alarm correlation is accomplished is outside the scope of the present document. |

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| **End of Change** |