**3GPP TSG- Meeting #**

**, , - revision of S5-241528**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** |  | **rev** |  | **Current version:** |  |  |
|  | | | | | | | | |
| *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:*** |  | | | | | | | | | |
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| ***Source to WG:*** |  | | | | | | | | | |
| ***Source to TSG:*** | S5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** |  | | | | |  | ***Date:*** | | |  |
|  |  | | | |  | |  | | |  |
| ***Category:*** |  |  | | | | | ***Release:*** | | |  |
|  | *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-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | EditHelp provided comments to the specification, some of which were not implemented. These comments are handled now. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | |  | | --- | | Implement EditHelp comments and remove all MSWord comments from  the document.  Delete rows containing notes about the numerical values of the  probableCause. They have no meaning as the specification does not specify numerical values for the probableCause. | |  | | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Confusing MsWord comments in the document .  Confusing and meaningless notes in the probableCause table. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 8.1, A.2.2.2, Annex B | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | | When implementing this CR please remove all MS Word comments from the document. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

***First change***

8.1 Overview

This clause specifies the alarm notifications used to report modifications of the alarm list and alarm records. To receive these notifications MnS consumers needs to have appropriate subscriptions in place. TS 28.622 [5], clause 4.3.22 describes how to manage notification subscriptions.

***Next change***

A.2.2.2 Resources

Figure A.2.2.2 -1 shows the resource structure of the fault supervision data report MnS in the context of its integration with VES Event Listener 7.1.1 [9].

**A screen shot of a computer program

Description automatically generated with low confidence**

**Figure A.2.2.2-1: Resource URI structure of the fault management data report MnS for integration with ONAP VES Event Listener 7.1.1 (Resource structure section) [9]**

See also Resource structure section in [9].

***Next change***

Annex B (informative):   
Probable Causes

This annex lists probable causes.

Sources of these probable causes are ITU-T Recommendation M.3100 [7], ITU-T Recommendation X.721 [6], ITU‑T Recommendation X.733 [8], and ITU-T Recommendation X.736 [13]. In addition, probable causes for wireless systems are listed in ETSI TS 101 251 V6.3.0 (1999-07) [3].

NOTE 1: Probable causes that are defined by more than one standard have been removed to ensure unicity.

**Table B.1: Probable Causes from ITU-T Recommendation M.3100 [7]**

| **M.3100 Probable cause (string)** | **Event Type** |
| --- | --- |
| Indeterminate | Unknown |
| Alarm Indication Signal (AIS) | Communications |
| Call Setup Failure | Communications |
| Degraded Signal | Communications |
| Far End Receiver Failure (FERF) | Communications |
| Framing Error | Communications |
| Loss Of Frame (LOF) | Communications |
| Loss Of Pointer (LOP) | Communications |
| Loss Of Signal (LOS) | Communications |
| Payload Type Mismatch | Communications |
| Remote Alarm Interface | Communications |
| Excessive Bit Error Rate (EBER) | Communications |
| Path Trace Mismatch | Communications |
| Unavailable | Communications |
| Signal Label Mismatch | Communications |
| Loss Of Multi Frame | Communications |
| Communications Receive Failure | Communications |
| Communications Transmit Failure | Communications |
| Modulation Failure | Communications |
| Demodulation Failure | Communications |
| Back Plane Failure | Equipment |
| Data Set Problem | Equipment |
| Equipment Identifier Duplication | Equipment |
| External IF Device Problem | Equipment |
| Line Card Problem | Equipment |
| Multiplexer Problem | Equipment |
| NE Identifier Duplication | Equipment |
| Power Problem | Equipment |
| Power Supply Failure | Equipment |
| Processor Problem | Equipment |
| Protection Path Failure | Equipment |
| Receiver Failure | Equipment |
| Replaceable Unit Missing | Equipment |
| Replaceable Unit Type Mismatch | Equipment |
| Synchronization Source Mismatch | Equipment |
| Terminal Problem | Equipment |
| Timing Problem | Equipment |
| Transmitter Failure | Equipment |
| Trunk Card Problem | Equipment |
| Replaceable Unit Problem | Equipment |
| Real Time Clock Failure | Equipment |
| Protection Mechanism Failure | Equipment |
| Protecting Resource Failure | Equipment |
| Air Compressor Failure | Environmental |
| Air Conditioning Failure | Environmental |
| Air Dryer Failure | Environmental |
| Battery Discharging | Environmental |
| Battery Failure | Environmental |
| Commercial Power Failure | Environmental |
| Cooling Fan Failure | Environmental |
| Engine Failure | Environmental |
| Fire Detector Failure | Environmental |
| Fuse Failure | Environmental |
| Generator Failure | Environmental |
| Low Battery Threshold | Environmental |
| Pump Failure | Environmental |
| Rectifier Failure | Environmental |
| Rectifier High Voltage | Environmental |
| Rectifier Low F Voltage | Environmental |
| Ventilation System Failure | Environmental |
| Enclosure Door Open | Environmental |
| Explosive Gas | Environmental |
| Fire | Environmental |
| Flood | Environmental |
| High Humidity | Environmental |
| High Temperature | Environmental |
| High Wind | Environmental |
| Ice Build Up | Environmental |
| Intrusion Detection | Environmental |
| Low Fuel | Environmental |
| Low Humidity | Environmental |
| Low Cable Pressure | Environmental |
| Low Temperature | Environmental |
| Low Water | Environmental |
| Smoke | Environmental |
| Toxic Gas | Environmental |
| Storage Capacity Problem | Processing Error |
| Memory Mismatch | Processing Error |
| Corrupt Data | Processing Error |
| Out Of CPU Cycles | Processing Error |
| Software Environment Problem | Processing Error |
| Software Download Failure | Processing Error |
| Loss of Real Time | Processing Error |
| Reinitialized | Processing Error |
| Excessive Error Rate | Quality of service |

**Table B.2: Probable Causes from ITU-T Recommendation X.721 [6], X.733 [8], X.736 [13]**

| **X.721/X.733/X.736 Probable Cause (string)** | **Even Type** |
| --- | --- |
| Adapter Error | Equipment |
| Application Subsystem Failure | Processing error |
| Bandwidth Reduction | Security Service or Mechanism Violation |
| Communication Protocol Error | Communications |
| Communication Subsystem Failure | Communications |
| Configuration or Customizing Error | Processing error |
| Congestion | Quality of service |
| CPU Cycles Limit Exceeded | Processing error |
| Data Set or Modem Error | Equipment |
| DTE-DCE Interface Error | Communications |
| Equipment Malfunction | Communications |
| Excessive Vibration | Integrity Violation |
| File Error | Environmental |
| Heating or Ventilation or Cooling System Problem | Environmental |
| Humidity Unacceptable | Environmental |
| Input/Output Device Error | Equipment |
| Input Device Error | Environmental |
| LAN Error | Processing error |
| Leak Detection | Environmental |
| Local Node Transmission Error | Communications |
| Material Supply Exhausted | Environmental |
| Out of Memory | Processing error |
| Output Device Error | Equipment |
| Performance Degraded | Quality of service |
| Pressure Unacceptable | Operational Violation |
| Queue Size Exceeded | Quality of service |
| Receive Failure | Equipment |
| Remote Node Transmission Error | Communications |
| Resource at or Nearing Capacity | Quality of service |
| Response Time Excessive | Quality of service |
| Re-transmission Rate Excessive | Quality of service |
| Software Error | Processing error |
| Software Program Abnormally Terminated | Processing error |
| Software Program Error | Processing error |
| Temperature Unacceptable | Environmental |
| Threshold Crossed | Quality of service |
| Toxic Leak Detected | Environmental |
| Transmit Failure | Equipment |
| Underlying Resource Unavailable | Processing error |
| Version Mismatch | Processing error |

**Table B.3: Probable Causes for Wireless Systems from ETSI TS 101 251 V6.3.0 (1999-07) [3]**

| **Wireless Systems (string)** | **Event Type** |
| --- | --- |
| A-bis to BTS interface failure | Equipment |
| A-bis to TRX interface failure | Equipment |
| Antenna problem | Equipment |
| Battery breakdown | Equipment |
| Battery charging fault | Equipment |
| Clock synchronization problem | Equipment |
| Combiner problem | Equipment |
| Disk problem | Equipment |
| Excessive receiver temperature | Equipment |
| Excessive transmitter output power | Equipment |
| Excessive transmitter temperature | Equipment |
| Frequency hopping degraded | Equipment |
| Frequency hopping failure | Equipment |
| Frequency redefinition failed | Equipment |
| Line interface failure | Equipment |
| Link failure | Equipment |
| Loss of synchronization | Equipment |
| Lost redundancy | Equipment |
| Mains breakdown with battery back-up | Equipment |
| Mains breakdown without battery back-up | Equipment |
| Power supply failure | Equipment |
| Receiver antenna fault | Equipment |
| Receiver multicoupler failure | Equipment |
| Reduced transmitter output power | Equipment |
| Signal quality evaluation fault | Equipment |
| Timeslot hardware failure | Equipment |
| Transceiver problem | Equipment |
| Transcoder problem | Equipment |
| Transcoder or rate adapter problem | Equipment |
| Transmitter antenna failure | Equipment |
| Transmitter antenna not adjusted | Equipment |
| Transmitter low voltage or current | Equipment |
| Transmitter off frequency | Equipment |
| Database inconsistency | Processing error |
| File system call unsuccessful | Processing error |
| Input parameter out of range | Processing error |
| Invalid parameter | Processing error |
| Invalid pointer | Processing error |
| Message not expected | Processing error |
| Message not initialized | Processing error |
| Message out of sequence | Processing error |
| System call unsuccessful | Processing error |
| Timeout expired | Processing error |
| Variable out of range | Processing error |
| Watch dog timer expired | Processing error |
| Cooling system failure | Environmental |
| External equipment failure | Environmental |
| External power supply failure | Environmental |
| External transmission device failure | Environmental |
| Reduced alarm reporting | Quality of service |
| Reduced event reporting | Quality of service |
| Reduced logging capability | Quality of service |
| System resources overload | Quality of service |
| Broadcast channel failure | Communications |
| Connection establishment error | Communications |
| Invalid message received | Communications |
| Invalid MSU received | Communications |
| LAPD link protocol failure | Communications |
| Local alarm indication | Communications |
| Remote alarm indication | Communications |
| Routing failure | Communications |
| SS7 protocol failure | Communications |
| Transmission error | Communications |

**Table B.4: Probable Causes for Security Alarm from M3100 X.736 [13]**

| **Wireless Systems (string)** | **Even Type** |
| --- | --- |
| Authentication Failure | security service or mechanism violation |
| Breach of Confidentiality | security service or mechanism violation |
| Cable Tamper | physical violation |
| Delayed Information | time domain violation |
| Denial of Service | operational violation |
| Duplicate Information | integrity violation |
| Information Missing | integrity violation |
| Information Modification Detected | integrity violation |
| Information Out of Sequence | integrity violation |
| Intrusion Detection | physical violation |
| Key Expired | time domain violation |
| Non Repudiation Failure | security service or mechanism violation |
| Out of Hours Activity | time domain violation |
| Out of Service | operational violation |
| Procedural Error | operational violation |
| Unauthorised Access Attempt | security service or mechanism violation |
| Unexpected Information | integrity violation |
| Unspecified Reason | security service or mechanism violation |

***End of changes***