3GPP TSG SA WG5 Meeting 136-e S5-212200

electronic meeting, online, 1 - 9 March 2021

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **28.622** | **CR** | **0099** | **rev** | **-** | **Current version:** | **16.6.0** |  |
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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:*** | Some mirror correction | | | | | | | | | |
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| ***Source to WG:*** | S5 | | | | | | | | | |
| ***Source to TSG:*** | Huawei | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eNRM | | | | |  | ***Date:*** | | | 2021-02-03 |
|  |  | | | |  | |  | | |  |
| ***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)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | 1. The “iswritable” of attribute “objectClass” and “objectInstance” in TopX in clause 4.3.8 is “F”, however, it should be allowed for the MnS consumer to specify values. 2. Inhterience description for some IOCs (e.g. TraceJob) is missing. 3. The “SQ” is used in some attribute tables which is not align with “Support Qualifier”. | | | | | | | | |
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| ***Summary of change:*** | | 1. Correct the “iswritable” of attribute “objectClass” and “objectInstance” in TopX in clause 4.3.8. 2. Add Inhterience description for some IOCs which is missing 3. Change the “SQ” to “Support Qualifier”. | | | | | | | | |
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| ***Consequences if not approved:*** | | The specification will exist the following incorrect information:   * The “iswritable” of attribute “objectClass” and “objectInstance” in TopX is incorrect; * Misaligment information for SQ existed. * The 4.3.11.2 Attributes table is imcomplete | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 4.3.8.2,4.3.11.2,4.3.15, 4.3.16.2,4.3.30.2,4.3.31.2,4.3.32.2,4.3.33.2,4.3.34.2, | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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| **1st Change** |

### 4.3.8 TopX

#### 4.3.8.1 Definition

This IOC is provided for sub-classing only. All information object classes defined in all TS that claim to be conformant to 32.102 [2] shall inherit from TopX.

#### 4.3.8.2 Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute Name | Support Qualifier | isReadable | isWritable | isInvariant | isNotifyable |
| objectClass | M | T | T | T | T |
| objectInstance | M | T | T | T | T |

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| **2nd Change** |

### 4.3.11 *EP\_RP*

#### 4.3.11.1 Definition

This IOC is provided for sub-classing only. This IOC represents an end point of a link used across a reference point between two network entities.

For naming the subclasses of EP\_RP, the following rules shall apply:

- The name of the subclassed IOC shall have the form “EP\_<rp>”, where <rp> is a string that represents the name of the reference point.

Thus, two valid examples of EP\_RP subclassed IOC names would be: EP\_S1 and EP\_X2.

#### 4.3.11.2 Attributes

The EP\_RP IOC includes the attributes inherited from Top IOC (defined in clause 4.3.29) and the following attributes:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute Name | Support Qualifier | isReadable | isWritable | isInvariant | isNotifyable |
| farEndEntity | O | T | F | F | T |
| userLabel | O | T | T | F | T |
| supportedPerfMetricGroups | O | T | F | F | T |

#### 4.3.11.3 Attribute constraints

None

#### 4.3.11.4 Notifications

This class does not support any notification.

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| **3rd Change** |

### 4.3.15 Void

### 4.3.16 ThresholdMonitor

#### 4.3.16.1 Definition

This IOC represents a threshold monitor for performance metrics. It can be name-contained by SubNetwork, ManagedElement, or ManagedFunction. A threshold monitor checks for threshold crossings of performance metric values and generates a notification when that happens.

To activate threshold monitoring, a MnS consumer needs to create a ThresholdMonitor instance on the MnS producer. For ultimate deactivation of threshold monitoring, the MnS consumer should delete the monitor to free up resources on the MnS producer.

For temporary suspension of threshold monitoring, the MnS consumer can manipulate the value of the administrative state attribute. The MnS producer may disable threshold monitoring as well, for example in overload situations. This situation is indicated by the MnS producer with setting the operational state attribute to disabled. When monitoring is resumed the operational state is set again to enabled.

All object instances below and including the instance name-containing the ThresholdMonitor (base object instance) are scoped for performance metric production. Performance metrics are monitored only on those object instances whose object class matches the object class associated to the performance metrics to be monitored.

The optional attributes objectInstances and rootObjectInstances allow to restrict the scope. When the attribute objectInstances is present, only the object instances identified by this attribute are scoped. When the attribute rootObjectInstances is present, then the subtrees whose root objects are identified by this attribute are scoped. Both attributes may be present at the same time meaning the total scope is equal to the sum of both scopes. Object instances may be scoped by both the objectInstances and rootObjectInstances attributes. This shall not be considered as an error by the MnS producer.

Multiple thresholds can be defined for multiple performance metric sets in a single monitor using thresholdInfoList. The attribute monitorGranularityPeriod defines the granularity period to be applied.

A threshold is defined using the attributes thresholdValue , thresholdDirection and hysteresis.

When hysteresis is absent or carries no information, a threshold is triggered when the thresholdValue is reached or crossed. When hysteresis is present, two threshold values are specified for the threshold as follows: A high treshold value equal to the threshold value plus the hysteresis value, and a low threshold value equal to the threshold value minus the hysteresis value. When the monitored performance metric increases, the theshold is triggered when the high threshold value is reached or crossed. When the monitored performance metric decreases, the theshold is triggered when the low threshold value is reached or crossed. The hsyteresis ensures that the performance metric value can oscillate around a comparison value without triggering each time the threshold when the threshold value is crossed.

Using the thresholdDirection attribute a threshold can be configured in such a manner that it is triggered only when the monitored performance metric is going up or down upon reaching or crossing the threshold.

A ThresholdMonitor creation request shall be rejected, if the performance metrics requested to be monitored, the requested granularity period, or the requested combination thereof is not supported by the MnS producer. A creation request may fail, when the performance metrics requested to be monitored are not produced by a PerfMetricJob.

Creation and deletion of ThresholdMonitor instances by MnS consumers is optional; when not supported, ThresholdMonitor instances may be created and deleted by the system or be pre-installed.

#### 4.3.16.2 Attributes

The ThresholdMonitor IOC includes attributes inherited from Top IOC (defined in clause 4.3.29) and the following attributes:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Support Qualifier | isReadable | isWritable | isInvariant | isNotifyable |
| administrativeState | M | T | T | F | T |
| operationalState | M | T | F | F | T |
| thresholdInfoList | M | T | T | F | T |
| monitorGranularityPeriod | M | T | T | F | T |
| objectInstances | O | T | T | F | F |
| rootObjectInstances | O | T | T | F | F |

#### 4.3.16.3 Attribute constraints

None.

#### 4.3.16.4 Notifications

The common notifications defined in clause 4.5 are valid for this IOC.

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| **4th Change** |

### 4.3.30 TraceJob

#### 4.3.30.1 Definition

A TraceJob instance represents the Trace Control and Configuration parameters of a particular Trace Job (see TS 32.421 [29] and TS 32.422 [30] for details).

To activate Trace Jobs, a MnS consumer has to create TraceJob object instances on the MnS producer. A MnS consumer can activate a Trace Job for another MnS consumer since it is not required the value of tjTraceCollectionEntityAddress or tjStreamingTraceConsumerUri to be his own.

For the details of Trace Job activation see clauses 4.1.1.1.2 and 4.1.2.1.2 of TS 32.422 [30].

When a MnS consumer wishes to deactivate a Trace Job, the MnS consumer shall delete the corresponding TraceJob instance. For details of management Trace Job deactivation see clause 4.1.1.1.2 of TS 32.422 [30].

Creation and deletion of TraceJob instances by MnS consumers is optional; when not supported, the TraceJob instances may be created and deleted by the system or be pre-installed.

#### 4.3.30.2 Attributes

The TraceJob IOC includes attributes inherited from Top IOC (defined in clause 4.3.29) and the following attributes:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute Name | Support Qualifier | isReadable | isWritable | isInvariant | isNotifyable |
| tjJobType | M | T | T | F | T |
| tjListOfInterfaces | O | T | T | F | T |
| tjListOfNeTypes | CM | T | T | F | T |
| tjPLMNTarget | CM | T | T | F | T |
| tjStreamingTraceConsumerURI | CM | T | T | F | T |
| tjTraceCollectionEntityAddress | CM | T | T | F | T |
| tjTraceDepth | CM | T | T | F | T |
| tjTraceReference | M | T | T | F | T |
| tjTraceReportingFormat | M | T | T | F | T |
| tjTraceTarget | CM | T | T | F | T |
| tjTriggeringEvent | CM | T | T | F | T |
| tjMDTAnonymizationOfData | CM | T | T | F | T |
| tjMDTAreaConfigurationForNeighCell | CM | T | T | F | T |
| tjMDTAreaScope | CM | T | T | F | T |
| tjMDTCollectionPeriodRrmLte | CM | T | T | F | T |
| tjMDTCollectionPeriodRrmUmts | CM | T | T | F | T |
| tjMDTCollectionPeriodRrmNR | CM | T | T | F | T |
| tjMDTEventListForTriggeredMeasurement | CM | T | T | F | T |
| tjMDTEventThreshold | CM | T | T | F | T |
| tjMDTListOfMeasurements | CM | T | T | F | T |
| tjMDTLoggingDuration | CM | T | T | F | T |
| tjMDTLoggingInterval | CM | T | T | F | T |
| tjMDTMBSFNAreaList | CM | T | T | F | T |
| tjMDTMeasurementPeriodLTE | CM | T | T | F | T |
| tjMDTMeasurementPeriodUMTS | CM | T | T | F | T |
| tjMDTMeasurementQuantity | CM | T | T | F | T |
| tjMDTPLMList | CM | T | T | F | T |
| tjMDTPositioningMethod | CM | T | T | F | T |
| tjMDTReportAmount | CM | T | T | F | T |
| tjMDTReportingTrigger | CM | T | T | F | T |
| tjMDTReportInterval | CM | T | T | F | T |
| tjMDTReportType | CM | T | T | F | T |
| tjMDTSensorInformation | CM | T | T | F | T |
| tjMDTTraceCollectionEntityID | CM | T | T | F | T |

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| **5th Change** |

### 4.3.31 PerfMetricJob

#### 4.3.31.1 Definition

This IOC represents a performance metric production job. It can be name-contained by SubNetwork, ManagedElement, or ManagedFunction.

To activate the production of the specified performance metrics, a MnS consumer needs to create a PerfMetricJob instance on the MnS producer. For ultimate deactivation of metric production, the MnS consumer should delete the job to free up resources on the MnS producer.

For temporary suspension of metric production, the MnS consumer can manipulate the value of the administrative state attribute. The MnS producer may disable metric production as well, for example in overload situations. This situation is indicated by the MnS producer with setting the operational state attribute to disabled. When production is resumed the operational state is set again to enabled.

The jobId attribute can be used to associate metrics from multiple PerfMetricJob instances. The jobId can be included when reporting performance metrics to allow a MnS consumer to associate received metrics for the same purpose.  For example, it is possible to configure the same jobId value for multiple PerfMetricJob instances required to produce the measurements for a specific KPI.

The attribute performanceMetrics defines the performance metrics to be produced and the attribute granularityPeriod defines the granularity period to be applied.

All object instances below and including the instance name-containing the PerfMetricJob (base object instance) are scoped for performance metric production. Performance metrics are produced only on those object instances whose object class matches the object class associated to the performance metrics to be produced.

The optional attributes objectInstances and rootObjectInstances allow to restrict the scope. When the attribute objectInstances is present, only the object instances identified by this attribute are scoped. When the attribute rootObjectInstances is present, then the subtrees whose root objects are identified by this attribute are scoped. Both attributes may be present at the same time meaning the total scope is equal to the sum of both scopes. Object instances may be scoped by both the objectInstances and rootObjectInstances attributes. This shall not be considered as an error by the MnS producer.

When the performance metric requires performance metric production on multiple managed objects, which is for example the case for KPIs, the MnS consumer needs to ensure all required objects are scoped. Otherwise a PerfMetricJob creation request shall fail.

The attribute reportingCtrl specifies the method and associated control parameters for reporting the produced measurements to MnS consumers. Three methods are available: file-based reporting with selection of the file location by the MnS producer, file-based reporting with selection of the file location by the MnS consumer and stream-based reporting.

A PerfMetricJob creation request shall be rejected, if the requested performance metrics, the requested granularity period, the requested repoting method, or the requested combination thereof is not supported by the MnS producer.

Creation and deletion of PerfMetricJob instances by MnS consumers is optional; when not supported, PerfMetricJob instances may be created and deleted by the system or be pre-installed.

#### 4.3.31.2 Attributes

The PerfMetricJob IOC includes attributes inherited from Top IOC (defined in clause 4.3.29) and the following attributes:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Support Qualifier | isReadable | isWritable | isInvariant | isNotifyable |
| administrativeState | M | T | T | F | T |
| operationalState | M | T | F | F | T |
| jobId | M | T | T | T | T |
| performanceMetrics | M | T | T | F | T |
| granularityPeriod | M | T | T | F | T |
| objectInstances | O | T | T | F | T |
| rootObjectInstances | O | T | T | F | T |
| reportingCtrl | M | T | T | F | T |

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| **6th Change** |

### 4.3.32 SupportedPerfMetricGroup <<dataType>>

#### 4.3.32.1 Definition

This <<dataType>> captures a group of supported performance metrics, and associated (production and monitoring) granularity periods and reporting methods that are supported for the specified performance metric group.

#### 4.3.32.2 Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Support Qualifier | isReadable | isWritable | isInvariant | isNotifyable |
| performanceMetrics | M | T | F | F | T |
| granularityPeriods | M | T | F | F | T |
| reportingMethods | M | T | F | F | T |
| monitorGranularityPeriods | M | T | F | F | T |

#### 4.3.32.3 Attribute constraints

None

#### 4.3.32.4 Notifications

Not applicable.

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| **7th Change** |

### 4.3.33 ReportingCtrl <<choice>>

#### 4.3.33.1 Definition

This <<choice>> defines the method for reporting collected performance metrics to MnS consumers as well as the parameters for configuring the reporting function. It is a choice between the control parameter required for the reporting methods, whose presence selects the reporting method as follows:

When only the fileReportingPeriod attribute is present, the MnS producer shall store files on the MnS producer at a location selected by the MnS producer and inform the MnS consumer about the availability of new files and the file location using the notifyFileReady notification.

When only the fileReportingPeriod and fileLocation attributes are present, the MnS producer shall store the files on the MnS consumer at the loaction specified by fileLocation. No notification is emitted by the MnS producer.

When only the streamTarget attribute is present, the MnS producer shall stream the data to the location specified by streamTarget.

For the file-based reporting methods the fileReportingPeriod attribute specifies the time window during which collected measurements are stored into the same file before the file is closed and a new file is opened.

#### 4.3.33.2 Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Support Qualifier | isReadable | isWritable | isInvariant | isNotifyable |
| CHOICE\_1.1 fileReportingPeriod | CM | T | T | F | T |
| CHOICE\_2.1 fileReportingPeriod | CM | T | T | F | T |
| CHOICE\_2.2 fileLocation | CM | T | T | F | T |
| CHOICE\_3.1 streamTarget | CM | T | T | F | T |

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| **8th Change** |

### 4.3.34 ThresholdInfo <<dataType>>

#### 4.3.34.1 Definition

This data type defines a single threshold level.

#### 4.3.34.2 Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Support Qualifier | isReadable | isWritable | isInvariant | isNotifyable |
| performanceMetrics | M | T | T | F | T |
| thresholdDirection | M | T | T | F | T |
| thresholdValue | M | T | T | F | T |
| hysteresis | O | T | T | F | T |

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| **End of Change** |