**3GPP TSG- Meeting #**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** |  | **rev** | **1** | **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:*** | Rel-19 CR TS 28.623 Correct the misalignment for the YANG SS for adminstrativeState in ThresholdMonitor and PerfMetricJob | | | | | | | | | |
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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:*** | | The default value for the attribute “administrativeState” in PerfMetricJob IOC and ThresholdMonitor IOC is “LOCKED”, however, it is defined as “UNLOCKED” in “\_3gpp-common-measurements.yang”. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Update the default value for the attribute “administrativeState” in PerfMetricJob IOC and ThresholdMonitor IOC in “\_3gpp-common-measurements.yang” to align with stage 2 definition and corresponding YAML definition. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The YANG definition for the attribute “administrativeState” in PerfMetricJob IOC and ThresholdMonitor IOC in “\_3gpp-common-measurements.yang” is not aligned with stage 2 definition. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | Following YANG files normatively defined in the forge are updated:  - yang-models/\_3gpp-common-measurements.yang | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | | Forge MR link: <https://forge.3gpp.org/rep/sa5/MnS/-/merge_requests/1813> at commit ee0c86655d28106599caf3685cb043f093b22adc | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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| --- |
| **1st Change** |

Forge MR link: <https://forge.3gpp.org/rep/sa5/MnS/-/merge_requests/1813> at commit 03bac82be5cf7837f2c327e3999fd71a67cac11a

\*\*\* START OF CHANGE 1 \*\*\*

\*\*\* yang-models/\_3gpp-common-measurements.yang \*\*\*

<CODE BEGINS>

module \_3gpp-common-measurements {

yang-version 1.1;

namespace "urn:3gpp:sa5:\_3gpp-common-measurements";

prefix "meas3gpp";

import \_3gpp-common-top { prefix top3gpp; }

import \_3gpp-common-yang-types { prefix types3gpp; }

import \_3gpp-common-yang-extensions { prefix yext3gpp; }

import \_3gpp-common-files { prefix files3gpp; }

organization "3GPP SA5";

contact "https://www.3gpp.org/DynaReport/TSG-WG--S5--officials.htm?Itemid=464";

description "Defines Measurement and KPI related groupings

Any list/class intending to use this should include 2 or 3 uses statements

controlled by a feature:

A)

+++ feature MeasurementsUnderMyClass {

+++ description 'Indicates whether measurements and/or KPIs are supported

+++ for this class.';

+++ }

B) include the attribute measurementsList and/or kPIsList indicating the

supported measurment and KPI types and GPs. Note that for classes

inheriting from ManagedFunction, EP\_RP or SubNetwork these attributes are

already inherited, so there is no need to include them once more. E.g.

+++ grouping MyClassGrp {

+++ uses meas3gpp:SupportedPerfMetricGroup;

+++ }

C) include the class PerfmetricJob to control the measurements/KPIs. E.g.

list MyClass {

container attributes {

uses MyClassGrp;

}

+++ uses meas3gpp:MeasurementSubtree {

+++ if-feature MeasurementsUnderMyClass ;

+++ }

}

Measurements can be contained under ManagedElement, SubNetwork, or

any list representing a class inheriting from Subnetwork or

ManagedFunction.

Copyright 2025, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI,

TTA, TTC). All rights reserved.";

reference "3GPP TS 28.623

Generic Network Resource Model (NRM)

Integration Reference Point (IRP);

Solution Set (SS) definitions

3GPP TS 28.622

Generic Network Resource Model (NRM)

Integration Reference Point (IRP);

Information Service (IS)";

revision 2025-07-31 { reference CR-0554; }

revision 2025-05-19 { reference CR-0532; }

revision 2025-02-07 { reference CR-0461; }

revision 2025-01-29 { reference CR-0512; }

revision 2024-11-01 { reference CR-0488; }

revision 2024-05-06 { reference CR-0359; }

revision 2024-02-24 { reference CR-0346; }

revision 2023-11-18 { reference "CR-0299 CR-0305"; }

revision 2023-09-18 { reference CR-0271; }

revision 2023-04-26 { reference CR-0250; }

revision 2023-02-18 { reference "CR-0240"; }

revision 2023-02-14 { reference "CR-0234"; }

revision 2022-11-04 { reference "CR-0212 CR-0194"; }

revision 2022-10-24 { reference CR-0196; }

revision 2022-09-30 { reference CR-0191; }

revision 2021-07-22 { reference "CR-0137"; }

revision 2020-11-06 { reference "CR-0118"; }

revision 2020-09-04 { reference "CR-000107"; }

revision 2020-06-08 { reference "CR-0092"; }

revision 2020-05-31 { reference "CR-0084"; }

revision 2020-03-11 { reference "S5-201581, SP-200229"; }

revision 2019-11-21 { reference "S5-197275, S5-197735"; }

revision 2019-10-28 { reference "S5-193516"; }

revision 2019-06-17 { reference " "; }

feature FilesUnderPerfMetricJob {

description "Files shall be contained under PerfMetricJob";

}

grouping ThresholdInfoGrp {

description "Defines a single threshold level.";

leaf-list performanceMetrics {

type string;

min-elements 1;

description "List of performance metrics.

Performance metrics include measurements defined in TS 28.552 and KPIs

defined in TS 28.554 [28]. Performance metrics can also be specified

by other SDOs, or be vendor specific. Performance metrics are

identified with their names.

For measurements defined in TS 28.552 the name is constructed as the

bullet e) of the measurement definition.

A name can also identify a vendor specific performance metric or a

group of vendor specific performance metrics.";

}

leaf thresholdLevel {

type uint64;

mandatory true;

description "Number (key) for a single threshold in the threshold list

applicable to the monitored performance metric.";

}

leaf thresholdDirection {

type enumeration {

enum UP;

enum DOWN;

enum UP\_AND\_DOWN;

}

must '. = "UP\_AND\_DOWN" or not(../hysteresis)' {

error-message "In case a threshold with hysteresis is configured, the "

+"threshold direction attribute shall be set to 'UP\_AND\_DOWN'.";

}

mandatory true;

description "Direction of a threshold indicating the direction for which

a threshold crossing triggers a threshold.

When the threshold direction is configured to 'UP', the associated

treshold is triggered only when the performance metric value is going

up upon reaching or crossing the threshold value. The treshold is not

triggered, when the performance metric is going down upon reaching or

crossing the threshold value.

Vice versa, when the threshold direction is configured to 'DOWN', the

associated treshold is triggered only when the performance metric is

going down upon reaching or crossing the threshold value. The treshold

is not triggered, when the performance metric is going up upon reaching

or crossing the threshold value.

When the threshold direction is set to 'UP\_AND\_DOWN' the treshold is

active in both direcions.

In case a threshold with hysteresis is configured, the threshold

direction attribute shall be set to 'UP\_AND\_DOWN'.";

}

leaf thresholdValue {

type union {

type int64;

type decimal64 {

fraction-digits 2;

}

}

mandatory true;

description "Value against which the monitored performance metric is

compared at a threshold level in case the hysteresis is zero";

}

leaf hysteresis {

type union {

type uint64;

type decimal64 {

fraction-digits 2;

range "0..max";

}

}

must '. >= 0';

description "Hysteresis of a threshold. If this attribute is present

the monitored performance metric is not compared against the

threshold value as specified by the thresholdValue attribute but

against a high and low threshold value given by

threshold-high = thresholdValue + hysteresis

threshold-low = thresholdValue - hysteresis

When going up, the threshold is triggered when the performance metric

reaches or crosses the high threshold value. When going down, the

hreshold is triggered when the performance metric reaches or crosses

the low threshold value.

A hysteresis may be present only when the monitored performance

metric is not of type counter that can go up only. If present

for a performance metric of type counter, it shall be ignored.";

}

}

grouping SupportedPerfMetricGroupGrp {

list SupportedPerfMetricGroups {

config false;

key idx;

description "Captures a group of supported performance metrics and

associated parameters related to their production and reporting.

A SupportedPerfMetricGroup attribute which is part of an MOI may

define performanceMetrics for any MOI under the subtree contained

under that MOI, e.g. SupportedPerfMetricGroup on a ManagedElement

can specify supported metrics for contained ManagedFunctions

like a GNBDUFunction.";

leaf idx { type uint32; }

leaf-list performanceMetrics {

type string;

min-elements 1;

description "Performance metrics include measurements defined in

TS 28.552 and KPIs defined in TS 28.554.

Measurements are identified by name.

For measurements defined in TS 28.552 the name is constructed as

the bullet e) of the measurement definition.

For KPIs defined in TS 28.554 the name is defined in the KPI

definitions template as the component designated with e).

For non-3GPP specified measurements the name is defined

elsewhere.";

}

leaf-list granularityPeriods {

type uint32 {

range 1..max ;

}

units seconds;

description "Granularity periods supported for the associated

measurement types. The period is defined in seconds.";

}

leaf-list reportingMethods {

type enumeration {

enum FILE\_BASED\_LOC\_SET\_BY\_PRODUCER;

enum FILE\_BASED\_LOC\_SET\_BY\_CONSUMER;

enum STREAM\_BASED;

}

min-elements 1;

}

leaf-list reportingPeriods {

type uint32 {

range 1..max ;

}

units seconds;

description "Reporting periods supported for the associated

measurement types. The period is defined in seconds.";

}

}

}

grouping PerfMetricJobGrp {

description "Represents the attributes of the IOC PerfMetricJob";

leaf administrativeState {

default LOCKED;

type types3gpp:BasicAdministrativeState ;

description "Enable or disables production of the metrics";

}

leaf operationalState {

config false;

mandatory true;

type types3gpp:OperationalState ;

description "Indicates whether the PerfMetricJob is working.";

}

leaf jobId {

type string;

description "Id for a PerfMetricJob job.";

yext3gpp:inVariant;

}

leaf-list performanceMetrics {

type string;

min-elements 1;

description "Performance metrics include measurements defined in

TS 28.552 and KPIs defined in TS 28.554. Performance metrics can

also be those specified by other SDOs or vendor specific metrics.

Performance metrics are identfied with their names. A name can also

identify a vendor specific group of performance metrics.

For measurements defined in TS 28.552 the name is constructed as

the bullet e) of the measurement definition.

For KPIs defined in TS 28.554 the name is defined in the KPI

definitions template as the component designated with e).";

}

leaf granularityPeriod {

type uint32 {

range 1..max ;

}

units seconds;

mandatory true;

description "Granularity period used to produce measurements. The value

must be one of the supported granularity periods for the metric.";

}

leaf-list objectInstances {

type types3gpp:DistinguishedName;

}

leaf-list rootObjectInstances {

type types3gpp:DistinguishedName;

description "Each object instance designates the root of a subtree that

contains the root object and all descendant objects.";

}

uses types3gpp:ReportingCtrl {

refine "reportingCtrl/file-based-reporting/fileReportingPeriod" {

must '(number(.)\*"60") mod number(../granularityPeriod) = "0"' {

error-message

"The time-period must be a multiple of the granularityPeriod.";

}

}

}

leaf \_linkToFiles {

type string ;

config false;

mandatory true;

yext3gpp:notNotifyable ;

description "Link to a 'Files' object.";

yext3gpp:inVariant;

}

choice conditiona-or-schedule {

leaf schedulerRef {

type types3gpp:DistinguishedName;

description "Pointer to a Scheduler object.";

}

leaf conditionMonitorRef {

type types3gpp:DistinguishedName;

description "Pointer to a ConditionMonitor object.";

}

}

}

grouping ThresholdMonitorGrp {

description "A threshold monitor that is created by the consumer for

the monitored entities whose measurements are required by consumer

to monitor.";

leaf administrativeState {

default LOCKED;

type types3gpp:BasicAdministrativeState ;

description "Enables or disables the ThresholdMonitor.";

}

leaf operationalState {

config false;

mandatory true;

type types3gpp:OperationalState ;

description "Indicates whether the ThresholdMonitor is working.";

}

list thresholdInfoList {

key idx;

min-elements 1;

leaf idx { type uint32 ; }

uses ThresholdInfoGrp;

description "List of threshold info.";

}

leaf monitorGranularityPeriod {

type uint32 {

range "1..max";

}

units second;

mandatory true;

description " Granularity period used to monitor measurements for

threshold crossings. ";

}

leaf-list objectInstances {

type types3gpp:DistinguishedName;

yext3gpp:notNotifyable;

}

leaf-list rootObjectInstances {

type types3gpp:DistinguishedName;

description "Each object instance designates the root of a subtree that

contains the root object and all descendant objects.";

yext3gpp:notNotifyable;

}

}

grouping MeasurementSubtree {

description "Contains classes that define measurements.

Should be used in all classes (or classes inheriting from)

- SubNnetwork

- ManagedElement

- ManagedFunction

If a YANG module wants to augment these classes/list/groupings they must

augment all user classes!

If a class uses this grouping in its list it shall also use the

grouping SupportedPerfMetricGroupGrp to add SupportedPerfMetricGroup as

an attribute to its grouping";

list PerfMetricJob {

description "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 back 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 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.

For file-based reporting, all performance metrics that are produced

related to a 'PerfMetricJob' instance for a reporting period shall be

stored in a single reporting file.

When the administrative state is set to 'UNLOCKED' after the creation

of a 'PerfMetricJob' the first granularity period shall start. When

the administrative state is set to 'LOCKED' or the operational state

to 'DISABLED', the ongoing reporting period shall be aborted, for

streaming the ongoing granularity period. When the administrative

state is set back to 'UNLOCKED' or the operational state to 'ENABLED'

a new reporting period period shall start, in case of streaming a new

granularity period.

Changes of all other configurable attributes shall take effect only at

the beginning of the next reporting period, for streaming at the

beginning of the next granularity period.

When the 'PerfMetricJob' is deleted, the ongoing reporting period shall

be aborted, for streaming the ongoing granularity period.

A PerfMetricJob creation request shall fail, when 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.";

key id;

uses top3gpp:Top\_Grp ;

container attributes {

uses PerfMetricJobGrp ;

}

uses files3gpp:FilesSubtree {

if-feature FilesUnderPerfMetricJob;

}

}

list ThresholdMonitor {

key id;

description "Represents a threshold monitor for performance metrics.

It can be contained by SubNetwork, ManagedElement, or ManagedFunction.

A threshold monitor checks for threshold crossings of performance metric

values and generates a notification when that happens.

The ThresholdMonitor shall be used only when NRM based threshold

monitoring is supported.

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 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.

The value is a supported GP for the measurements being monitored.

Threshold crossing behaviour is as defined in [54], Annex F.

Each threshold is identified with a number (key) called thresholdLevel.

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 threshold is triggered when the high threshold value is

reached or crossed. When the monitored performance metric decreases, the

threshold 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.";

uses top3gpp:Top\_Grp ;

container attributes {

uses ThresholdMonitorGrp ;

}

}

}

}

<CODE ENDS>

\*\*\* END OF CHANGE 1 \*\*\*

|  |
| --- |
| **End of Changes** |