**3GPP TSG-SA5 Meeting #156 *S5-244824d1***

**Maastricht, Netherlands, 19th Aug 2024 - 23rd Aug 2024**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **28.623** | **CR** | **0432** | **rev** | **-** | **Current version:** | **19.0.0** |  |
|  | | | | | | | | |
| *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 |  |

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|  | | | | | | | | | | |
| ***Title:*** | Rel-19 CR to 28.623 Add NRECMappingRule reference to support NG-RAN energy cost Reporting | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson (China), Huawei | | | | | | | | | |
| ***Source to TSG:*** | S5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI18 | | | | |  | ***Date:*** | | | 2024-08-21 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | A |  | | | | | ***Release:*** | | | Rel-18 |
|  | *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:*** | | RAN3 has specified AI/ML energy saving functionality for NR based on energy cost reporting, for which OAM support is needed. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Add NRECMappingRule reference to ManagedElement IOC in stage 3 YANG. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Operator would not be able to configure mapping rule for the energy cost for None-split gNB | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | NA (YANG Code changes in forge only) | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 28.622 CR 0464  TS 28.541 CR 1337 | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | | Forge MR link: <https://forge.3gpp.org/rep/sa5/MnS/-/merge_requests/1341> at commit a7d10bae46eb6a67954ab6dfe632dab88bdf6ee6 | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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| **1st Change** |

Forge MR link: <https://forge.3gpp.org/rep/sa5/MnS/-/merge_requests/1341> at commit a7d10bae46eb6a67954ab6dfe632dab88bdf6ee6

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

\*\*\* yang-models/\_3gpp-common-managed-element.yang \*\*\*

<CODE BEGINS>

module \_3gpp-common-managed-element {

yang-version 1.1;

namespace urn:3gpp:sa5:\_3gpp-common-managed-element;

prefix "me3gpp";

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

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

import \_3gpp-common-measurements { prefix meas3gpp; }

import \_3gpp-common-subscription-control { prefix subscr3gpp; }

import \_3gpp-common-fm { prefix fm3gpp; }

import \_3gpp-common-trace { prefix trace3gpp; }

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

import \_3gpp-5gc-nrm-configurable5qiset { prefix fiveqi3gpp; }

import \_3gpp-5gc-nrm-ecmconnectioninfo { prefix econn3gpp ; }

import \_3gpp-nr-nrm-ecmappingrule { prefix ecmap3gpp ; }

organization "3GPP SA5";

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

description "Defines ManagedElement which will be augmented

by other IOCs

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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)

3GPP TS 28.620

Umbrella Information Model (UIM)";

revision 2024-08-21 { reference CR-1337 ; }

revision 2024-01-30 { reference CR-0328 ; }

revision 2023-11-14 { reference CR-0305 ; }

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

revision 2023-08-10 { reference CR-0257; }

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

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

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

revision 2021-01-16 { reference "CR-0120"; }

revision 2020-08-06 { reference "CR-0102"; }

revision 2020-08-03 { reference "CR-0095"; }

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

revision 2020-05-12 { reference "CR0084"; }

revision 2020-02-24 { reference "S5-201365"; }

revision 2019-06-17 { reference " S5-203316"; }

revision 2019-05-08 { reference "Initial revision"; }

feature ECMappingRuleUnderManagedElement {

description "ECMappingRule shall be contained under ManagedElement.";

}

feature EcmConnectionInfoUnderManagedElement {

description "The EcmConnectionInfo shall be contained under

ManagedElement";

}

feature Configurable5QISetUnderManagedElement {

description "The Configurable5QISet shall be contained under

ManagedElement";

}

feature FilesUnderManagedElement {

description "Files shall be contained under ManagedElement";

}

feature MeasurementsUnderManagedElement {

description "The MeasurementSubtree shall be contained under

ManagedElement";

}

feature SubscriptionControlUnderManagedElement {

description "The SubscriptionControlSubtree shall be contained under

ManagedElement";

}

feature SupportedNotificationsUnderManagedElement {

description "The SupportedNotificationsSubtree shall be contained under

ManagedElement";

}

feature FmUnderManagedElement {

description "The FmSubtree shall be contained under ManagedElement";

}

feature TraceUnderManagedElement {

description "The TraceSubtree shall be contained under ManageElement";

}

feature DESManagementFunction {

description "Class representing Distributed SON or Domain-Centralized SON

Energy Saving feature. The DESManagementFunction shall be contained under

ManagedElement.";

}

feature DMROFunction {

description "Class representing D-SON function of MRO feature. The

DMROFunction shall be contained under ManagedElement.";

}

feature DRACHOptimizationFunction {

description "Class representing D-SON function of RACH optimization

feature. The DRACHOptimizationFunction shall be contained under

ManagedElement.";

}

feature DPCIConfigurationFunction {

description "Class representing Distributed SON or Domain-Centralized SON

function of PCI configuration feature. The DPCIConfigurationFunction shall

be contained under ManagedElement.";

}

feature CPCIConfigurationFunction {

description "Class representing Cross Domain-Centralized SON function of PCI

configuration feature. The CPCIConfigurationFunction shall be contained

under ManagedElement.";

}

feature CESManagementFunction {

description "Class representing Cross Domain-Centralized SON Energy Saving

feature. The CESManagementFunction shall be contained under

ManagedElement.";

}

grouping ManagedElement\_Grp {

description "Abstract class representing telecommunications resources.

An ME communicates with a manager (directly or indirectly) for the

purpose of being monitored and/or controlled. MEs may perform element

management functionality.

An ME (and its contained Function\_(s)) may or may not be geographically

distributed. An ME (and its contained Function\_(s)) is often referred

to as a Network Element";

leaf dnPrefix {

description "Provides naming context that allows the Managed

Elements to be partitioned into logical domains.

A Distingushed Name(DN) is defined by 3GPP TS 32.300,

which splits the DN into a DN Prefix and Local DN";

type types3gpp:DistinguishedName;

}

leaf userLabel {

description "A user-friendly (and user assignable) name of this object.";

type string;

}

leaf locationName {

description "The physical location (e.g. an address) of an entity

represented by a (derivative of) ManagedElement\_. It may contain no

information to support the case where the derivative of

ManagedElement\_ needs to represent a distributed multi-location NE.";

config false;

type string;

}

leaf-list managedBy {

description "Relates to the role played by ManagementSystem\_ in the

between ManagedSystem\_ and ManagedElement\_. This attribute contains

a list of the DN(s) of the related subclasses of

ManagementSystem\_ instance(s).";

config false;

type types3gpp:DistinguishedName;

}

leaf-list managedElementTypeList {

description "The type of functionality provided by the ManagedElement.

It may represent one ME functionality or a combination of

more than one functionality.

1) The allowed values of this attribute are the names of the IOC(s)

that are (a) derived/subclassed from ManagedFunction and (b) directly

name-contained by ManagedElement IOC (on the first level below

ManagedElement), but with the string 'Function' excluded.

2) If a ManagedElement contains multiple instances of a ManagedFunction

this attribute will not contain repeated values.

3) The capitalisation (usage of upper/lower case) of characters in this

attribute is insignificant. Thus, the NodeB should be case insensitive

when reading these values.

4) Two examples of allowed values are:

- NodeB;

- HLR, VLR.";

config false;

min-elements 1;

type string;

}

}

grouping ManagedElementGrp {

description "Represents telecommunications equipment or

TMN entities within the telecommunications network providing support

and/or service to the subscriber.";

uses ManagedElement\_Grp;

leaf vendorName {

config false;

type string;

}

leaf userDefinedState {

type string;

description "An operator defined state for operator specific usage";

}

leaf swVersion {

config false;

type string;

}

leaf priorityLabel {

type uint32;

mandatory true;

}

uses meas3gpp:SupportedPerfMetricGroupGrp;

leaf-list supportedTraceMetrics {

type string;

config false;

description "List of trace metrics. When this attribute is contained in

a managed object it defines the trace metrics supported for this

object and all descendant objects.

Trace metrics include trace messages, MDT measurements

(Immediate MDT, Logged MDT, Logged MBSFN MDT), RLF and RCEF reports,

see TS 32.422. Trace metrics are identified with their metric

identifier. The metric identifier is constructed as defined

in clause 10 of TS 32.422.";

}

}

list ManagedElement {

description "Represents telecommunications equipment or TMN entities within

the telecommunications network providing support and/or service to the

subscriber. An ManagedElement IOC is used to represent a Network Element

defined in TS 32.101 including virtualizeation or non-virtualization

scenario. An ManagedElement instance is used for communicating with a

manager (directly or indirectly) over one or more management interfaces

for the purpose of being monitored and/or controlled. ManagedElement may

or may not additionally perform element management functionality.

An ManagedElement contains equipment that may or may not be geographically

distributed.

A telecommunication equipment has software and hardware components. The

ManagedElement IOC described above represents following two case:

- In the case when the software component is designed to run on dedicated

hardware component, the ManagedElement IOC description includes both

software and hardware components.

- In the case when the software is designed to run on ETSI NFV defined

NFVI [15], the ManagedElement IOC description would exclude the NFVI

component supporting the above mentioned subject software.

A ManagedElement may be contained in either a SubNetwork or in a MeContext

instance. A single ManagedElement may also exist stand-alone with no

parent at all.

The relation of ManagedElement IOC and ManagedFunction IOC can be

described as following:

- A ManaagedElement instance may have 1..1 containment relationship to a

ManagedFunction instance. In this case, the ManagedElement IOC may be

used to represent a NE with single functionality. For example, a

ManagedElement is used to represent the 3GPP defined RNC node;

- A ManagedElement instance may have 1..N containment relationship to

multiple ManagedFunction IOC instances. In this case, the ManagedElement

IOC may be used to represent a NE with combined ManagedFunction

funcationality (as indicated by the managedElementType attribute and the

contained instances of different ManagedFunction IOCs).For example, a

ManagedElement is used to represent the combined functionality of 3GPP

defined gNBCUCPFuntion, gNBCUUPFunction and gNBDUFunction";

key id;

uses top3gpp:Top\_Grp;

container attributes {

uses ManagedElementGrp;

}

uses meas3gpp:MeasurementSubtree {

if-feature MeasurementsUnderManagedElement;

}

uses subscr3gpp:SubscriptionControlSubtree {

if-feature SubscriptionControlUnderManagedElement;

}

uses subscr3gpp:SupportedNotificationsSubtree {

if-feature SupportedNotificationsUnderManagedElement;

}

uses fm3gpp:FmSubtree {

if-feature FmUnderManagedElement;

}

uses trace3gpp:TraceSubtree {

if-feature TraceUnderManagedElement;

}

uses files3gpp:FilesSubtree {

if-feature FilesUnderManagedElement;

}

uses fiveqi3gpp:Configurable5QISetSubtree {

if-feature Configurable5QISetUnderManagedElement;

}

uses econn3gpp:EcmConnectionInfoSubtree {

if-feature EcmConnectionInfoUnderManagedElement;

}

uses ecmap3gpp:NRECMappingRuleSubtree {

if-feature EcmConnectionInfoUnderManagedElement;

}

}

}

<CODE ENDS>

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

|  |
| --- |
| **End of changes** |