**3GPP TSG-SA5 Meeting #132e *S5-*** ***204552***

**Online, 17th 28th August 2020**

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| *CR-Form-v12.0* | | | | | | | | |
| **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:*** | Update HeartbeatControl YANG definition | | | | | | | | | |
|  |  | | | | | | | | | |
| ***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-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Update YANG SS following the Stage 2 updates S5-204362 | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | \_3gpp-common-subscription-control.yang | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | HearteatControl IOC different in Stage 2 and UANG SS | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | D.2.6a | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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** |

## D.2.6a module \_3gpp-common-subscription-control.yang

module \_3gpp-common-subscription-control {

yang-version 1.1;

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

prefix "subscr3gpp";

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

import \_3gpp-common-subnetwork { prefix subnet3gpp; }

import \_3gpp-common-managed-element { prefix me3gpp; }

organization "3GPP SA5";

description "Defines IOCs for subscription and heartbeat control.";

reference "3GPP TS 28.623

Generic Network Resource Model (NRM)

Integration Reference Point (IRP);

Solution Set (SS) definitions

3GPP TS 28.623";

revision 2020-08-26 { reference "CR-0106"; }

revision 2019-11-29 { reference "S5-197648 S5-197647 S5-197829 S5-197828"; }

grouping NtfSubscriptionControlGrp {

description "Attributes of a specific notification subscription";

leaf notificationRecipientAddress {

type string;

mandatory true;

}

leaf-list notificationTypes {

type string;

description "Defines the types of notifications that are candidates

for being forwarded to the notification recipient.

If the notificationFilter attribute is not supported or not present

all candidate notifications types are forwarded to the notification;

discriminated by notificationFilter attribute.";

}

list scope {

key "scopeType";

min-elements 1;

max-elements 1;

description "Describes which object instances are selected with

respect to a base object instance.";

leaf scopeType {

type enumeration {

enum BASE\_ONLY;

enum BASE\_ALL;

enum BASE\_NTH\_LEVEL;

enum BASE\_SUBTREE;

}

description "If the optional scopeLevel parameter is not supported

or absent, allowed values of scopeType are BASE\_ONLY and BASE\_ALL.

The value BASE\_ONLY indicates only the base object is selected.

The value BASE\_ALL indicates the base object and all of its

subordinate objects (incl. the leaf objects) are selected.

If the scopeLevel parameter is supported and present, allowed

values of scopeType are BASE\_ALL, BASE\_ONLY, BASE\_NTH\_LEVEL

and BASE\_SUBTREE.

The value BASE\_NTH\_LEVEL indicates all objects on the level,

which is specified by the scopeLevel parameter, below the base

object are selected. The base object is at scopeLevel zero.

The value BASE\_SUBTREE indicates the base object and all of its

subordinate objects down to and including the objects on the level,

which is specified by the scopeLevel parameter, are selected.

The base object is at scopeLevel zero.";

}

leaf scopeLevel {

when '../scopeType = "BASE\_NTH\_LEVEL" or ../scopeType = "BASE\_SUBTREE"';

type uint16;

mandatory true;

description "See description of scopeType.";

}

}

leaf notificationFilter {

type string;

description "Defines a filter to be applied to candidate notifications

identified by the notificationTypes attribute.

If notificationFilter is present, only notifications that pass the

filter criteria are forwarded to the notification recipient; all other

notifications are discarded.

The filter can be applied to any field of a notification.";

}

}

grouping HeartbeatControlGrp {

description "Attributes of HeartbeatControl. Note the triggerHeartbeatNtf attribute

has no mapping in the present release.";

leaf heartbeatNtfPeriod {

type uint32 ;

mandatory true;

units seconds;

description "Specifies the periodicity of heartbeat notification emission.

The value of zero has the special meaning of stopping the heartbeat

notification emission.";

}

}

grouping NtfSubscriptionControlWrapper {

list NtfSubscriptionControl {

description "A NtfSubscriptionControl instance represents the

notification subscription of a particular notification recipient.

The scope attribute is used to select managed object instances.

The base object instance of the scope is the object instance

name-containing the NtfSubscriptionControl instance.

The notifications related to the selected managed object instances

are candidates to be sent to the address specified by the

notificationRecipientAddress attribute.

The notificationType attribute and notificationFilter attribute

allow MnS consumers to exercise control over which candidate

notifications are sent to the notificationRecipientAddress.

If the notificationType attribute is supported and present, its

value identifies the

types of notifications that are candidate to be sent to the

notificationRecipientAddress. If the notificationType attribute is

not supported or not present, all types of notifications are

candidate to be sent to notificationRecipientAddress.

If supported, the notificationFilter attribute defines a filter that

is applied to the set of candidate notifications. Only candidate

notifications that pass the filter criteria are sent to the

notificationRecipientAddress. If the notificationFilter attribute is

not supported all candidate notificatios are sent to the

notificationRecipientAddress.

To receive notifications, a MnS consumer has to create

NtfSubscriptionControl object instancess on the MnS producer.

A MnS consumer can create a subscription for another MnS consumer

since it is not required the notificationRecipientAddress be his own

address.

When a MnS consumer does not wish to receive notifications any more

the MnS consumer shall delete the corresponding NtfSubscriptionControl

instance.

Creation and deletion of NtfSubscriptionControl instances by MnS

consumers is optional; when not supported, the NtfSubscriptionControl

instances may be created and deleted by the system or be pre-installed.";

key id;

uses top3gpp:Top\_Grp;

container attributes {

uses NtfSubscriptionControlGrp;

}

list HeartbeatControl {

min-elements 1;

max-elements 1;

description "MnS consumers (i.e. notification recipients) use heartbeat

notifications to monitor the communication channels between them and

data reporting MnS producers emitting notifications such as

notifyNewAlarm and notifyFileReady.

A HeartbeatControl instance allows controlling the emission of

heartbeat notifications by MnS producers. The recipients of heartbeat

notifications are specified by the notificationRecipientAddress

attribute of the NtfSubscriptionControl instance containing the

HeartbeatControl instance.

Note that the MnS consumer managing the HeartbeatControl instance

and the MnS consumer receiving the heartbeat notifications may not be

the same.

As a pre-condition for the emission of heartbeat notifications, a

HeartbeatControl instance needs to be created. Creation of an instance

with an initial non-zero value of the heartbeatNtfPeriod attribute

triggers an immediate heartbeat notification emission. Creation of an

instance with an initial zero value of the heartbeatPeriod attribute

does not trigger an emission of a heartbeat notification. Deletion of

an instance does not trigger an emission of a heartbeat notification.

Once the instance is created, heartbeat notifications are emitted with

a periodicity defined by the value of the heartbeatNtfPeriod attribute.

No heartbeat notifications are emitted if the value is equal to zero.

Setting a zero value to a non zero value, or a non zero value to a

different non zero value, triggers an immediate heartbeat notification,

that is the base for the new heartbeat period. Setting a non zero value

to a zero value stops emitting heartbeats immediately; no final

heartbeat notification is sent.

Creation and deletion of HeartbeatControl instances by MnS Consumers is

optional; when not supported, the HeartbeatControl instances may be

created and deleted by the system or be pre-installed.

Whether and when to emit heartbeat notifications is controlled by

HeartbeatControl. Subscription for heartbeat is not supported via the

NtfSubscriptionControl.";

key id;

uses top3gpp:Top\_Grp;

container attributes {

uses HeartbeatControlGrp;

}

}

}

}

augment /subnet3gpp:SubNetwork {

uses NtfSubscriptionControlWrapper;

}

augment /me3gpp:ManagedElement {

uses NtfSubscriptionControlWrapper;

}

}

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| --- |
| **End of Change** |