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| CHANGE REQUEST |
| Meeting ID:\* |  SDS #56 |
|   | Andreas Kraft, DT, A.Kraft@telekom.de Andreas Neubacher, DT, Andreas.Neubacher@magenta.at Miguel Angel Reina Ortega, ETSI, MiguelAngel.ReinaOrtega@etsi.org |
| Date:\* | 2022-09-27 |
| Reason for Change/s:\* | TS-0004 Clarification of Notification Recording Procedure |
| CR against: Release\* | Release 5 |
| CR against: WI\* | [ ]  Active WI-xxxx[x]  MNT maintenance / < Work Item number(optional)>Is this a mirror CR? Yes [ ]  No [ ] mirror CR number: (Note to Rapporteur - use latest agreed revision)[ ]  STE Small Technical Enhancements / < Work Item number (optional)>Only ONE of the above shall be ticked |
| CR against: TS/TR\* | TS-0004, V4.10.0 |
| Clauses \* | 6.3.5.76, 8.2.5 |
| Type of change: \* | [ ]  Editorial change[ ]  Bug Fix or Correction[x]  Change to existing feature or functionality[ ]  New feature or functionalityOnly ONE of the above shall be ticked |
| Impacted other TS/TR(s) |  |
| Post Freeze checking:\* | This CR contains only essential changes and corrections? YES [x]  NO [ ] This CR may break backwards compatibility with the last approved version of the TS? YES [ ]  NO [x]  |
| Template Version: January 2017 (Do not modify) |

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GUIDELINES for Change Requests:

Provide an informative introduction containing the problem(s) being solved, and a summary list of proposals.

Each CR should contain changes related to only one particular issue/problem.

In case of a correction, and the change apply to previous releases, a separate “mirror CR” should be posted at the same time of this CR

Mirror CR: applies only when the text, including clause numbering are exactly the same.

Companion CR: applies when the change means the same but the baselines differ in some way (e.g. clause number).

Follow the principle of completeness, where all changes related to the issue or problem within a deliverable are simultaneously proposed to be made E.g. A change impacting 5 tables should not only include a proposal to change only 3 tables. Includes any changes to references, definitions, and acronyms in the same deliverable.

Follow the drafting rules.

All pictures must be editable.

Check spelling and grammar to the extent practicable.

Use Change bars for modifications.

The change should include the current and surrounding clauses to clearly show where a change is located and to provide technical context of the proposed change. Additions of complete clauses need not show surrounding clauses as long as the proposed clause number clearly shows where the new clause is proposed to be located.

Multiple changes in a single CR shall be clearly separated by horizontal lines with embedded text such as, start of change 1, end of change 1, start of new clause, end of new clause.

When subsequent changes are made to content of a CR, then the accepted version should not show changes over changes. The accepted version of the CR should only show changes relative to the baseline approved text.

Introduction

This CR proposes the protocol changes necessary to implement the changes to the notification statistics handling and the *notificationStatsInfo* attribute from the CR TS-0001 CR 2022-0150 .

It introduces a new attribute *notificationEventCount* to the complex data type m2m:setOfNotificationStatsInfo that is defined in TS-0004, clause 6.3.5.76 in change 1.

Change 2 adds a new shortname for this new attribute to Table 8.2.5-1.

### \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Start of Change 1 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

#### 6.3.5.76 m2m:setOfNotificationStatsInfo

Used for the *notificatonStatsInfo* attribute of the <subscription> and <crossResourceSubscription> resources.

Table 6.3.5.76‑1: Type Definition of m2m:setOfNotificationStatsInfo

|  |  |  |  |
| --- | --- | --- | --- |
| Element Path | **Element Data Type**  | Multiplicity | Note |
| notificationStats | (anonymous) | 1..n |  |
| notificationStats/target | xs:anyURI | 1 |  |
| notificationStats/requestsSent | xs:nonNegativeInteger | 1 |  |
| notificationStats/responsesReceived | xs:nonNegativeInteger | 1 |  |
| notificationStats/notificationEventCount | xs:nonNegativeInteger | 1 |  |

### \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* End of Change 1 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

### \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Start of Change 2 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

### 8.2.5 Complex data types members

In protocol bindings complex data type member names shall be translated into short names of Table 8.2.5-1.

Table 8.2.5‑1: Complex data type member short names

| Member Name | Occurs in | Short Name |
| --- | --- | --- |
| createdBefore | filterCriteria, eventNotificationCriteria | ***crb*** |
| createdAfter | filterCriteria, eventNotificationCriteria | ***cra*** |
| modifiedSince | filterCriteria, eventNotificationCriteria | ***ms*** |
| unmodifiedSince | filterCriteria, eventNotificationCriteria | ***us*** |
| stateTagSmaller | filterCriteria, eventNotificationCriteria | ***sts*** |
| stateTagBigger | filterCriteria, eventNotificationCriteria | ***stb*** |
| expireBefore | filterCriteria, eventNotificationCriteria | ***exb*** |
| expireAfter | filterCriteria, eventNotificationCriteria | ***exa*** |
| labels | filterCriteria, eventNotificationCriteria | ***lbl\**** |
| labelsQuery | filterCriteria | ***lbq*** |
| resourceType | filterCriteria, accessControlObjectDetails | ***ty\**** |
| sizeAbove | filterCriteria, eventNotificationCriteria | ***sza*** |
| sizeBelow | filterCriteria, eventNotificationCriteria | ***szb*** |
| contentType | filterCriteria | ***cty*** |
| limit | filterCriteria | ***lim*** |
| attribute | filterCriteria, eventNotificationCriteria | ***atr*** |
| contentFilterSyntax | filterCriteria | ***cfs*** |
| contentFilterQuery | filterCriteria | ***cfq*** |
| level | filterCriteria | ***lvl*** |
| offset | filterCriteria | ***ofst*** |
| geoQuery | filterCriteria | ***gq*** |
| geometryType | geoQuery | ***gmty*** |
| geometry | geoQuery | ***geom*** |
| geoSpatialFunction | geoQuery | ***gsf*** |
| notificationEventType | eventNotificationCriteria, notificationEvent | ***net*** |
| operationMonitor | eventNotificationCriteria, notificationEvent | ***om*** |
| representation | notificationEvent | ***rep*** |
| filterUsage | filterCriteria | ***fu\**** |
| eventCatType | eventCat | ***ect*** |
| eventCatNo | eventCat | ***ecn*** |
| number | batchNotify, missingData | ***num*** |
| duration | batchNotify, missingData | ***dur*** |
| notification | aggregatedNotification, Request Primitive Content | ***sgn*** |
| notificationEvent | notification | ***nev*** |
| verificationRequest | notification | ***vrq*** |
| subscriptionDeletion | notification | ***sud*** |
| subscriptionReference | notification | ***sur*** |
| creator | notification | ***cr\**** |
| notificationForwardingURI | notification | ***nfu\**** |
| notificationTarget | notification | ***ntt*** |
| targetRemovalRequest | notification | ***trr*** |
| targetRemovalAllowance | notification | ***tra*** |
| IPEDiscoveryRequest | notification | ***idr*** |
| AERegistrationPointChange | notification | ***aerp*** |
| AEReferenceIDChange | notification | ***aerid*** |
| trackingID1 | notification | ***tid1*** |
| trackingID2 | notification | ***tid2*** |
| filterCriteria | IPEDiscoveryRequest | ***fc\**** |
| operation | operationMonitor, dynAuthDasRequest | ***op\**** |
| operations | operationMonitor, filterCriteria, primitiveProfile | ***ops*** |
| originator | operationMonitor, IPEDiscoveryRequest, dynAuthDasRequest | ***or\**** |
| action | actionStatus, e2eQosPolicy | ***acn\**** |
| status | actionStatus, e2eQosPolicy | ***sus\**** |
| childResource | All except execInstance, announced resource, management resources from firmware | ***ch*** |
| accessControlRule | privileges, selfPrivileges | ***acr*** |
| accessControlOriginators | accessControlRule | ***acor*** |
| accessControlOperations | accessControlRule | ***acop*** |
| accessControlContexts | accessControlRule | ***acco*** |
| accessControWindow | accessControlContexts | ***actw*** |
| accessControlIpAddresses | accessControlContexts | ***acip*** |
| ipv4Addresses | accessControlIpAddress | ***ipv4*** |
| ipv6Addresses | accessControlIpAddress | ***ipv6*** |
| accessControlLocationRegion | accessControlContexts | ***aclr*** |
| countryCode | accessControlLocationRegion | ***accc*** |
| circRegion | accessControlLocationRegion | ***accr*** |
| accessControlEvalCriteria | accessControlContexts | ***acec*** |
| accessControlLimit | accessControlContexts | ***acl*** |
| name | attribute, anyArgType, mgmtLinkRef, childResourceRef, contentRef, listOfAttributes | ***nm\**** |
| specializationType | childResourceRef, accessControlObjectDetails | ***spty\**** |
| containerDefinition | specializationType | ***cnd\**** |
| mgmtDefinition | specializationType | ***mgd\**** |
| value | attribute, listOfAttributes | ***val*** |
| type | anyArgType, childResourceRef, mgmtLinkRef, location | ***typ*** |
| maxNrOfNotify | rateLimit | ***mnn*** |
| timeWindow | rateLimit | ***tww*** |
| scheduleEntry | scheduleElement | ***sce*** |
| aggregatedNotification | Request Primitive Content | ***agn*** |
| attributeList | Request Primitive Content | ***atrl*** |
| securityInfo | Request Primitive Content, Response Primitive Content | ***seci*** |
| aggregatedResponse | Response Primitive Content | ***agr*** |
| resource | Response Primitive Content | ***rce*** |
| URIList | Response Primitive Content | ***uril*** |
| debugInfo | Response Primitive Content | ***dbg*** |
| queryResult | Response Primitive Content | ***qres*** |
| anyArg | resetArgsType, rebootArgsType, uploadArgsType, downloadArgsType, softwareInstallArgsType softwareUpdateArgsType, softwareUninstallArgsType, execReqArgsListType | ***any*** |
| fileType | downloadArgsType | ***ftyp*** |
| URI | resourceWrapper, dynAuthTokenReqInfo, resourcePermissions | ***uri*** |
| resourcePermission | resourcePermissions | ***rpm*** |
| setOfACRs | resourcePermissions | ***sacr*** |
| URL | downloadArgsType | ***url\**** |
| username | uploadArgsType, downloadArgsType, softwareUpdateArgsType, softwareUninstallArgsType | ***unm*** |
| password | uploadArgsType, downloadArgsType, softwareUpdateArgsType, softwareUninstallArgsType | ***pwd*** |
| filesize | downloadArgsType | ***fsi*** |
| targetFile | downloadArgsType | ***tgf*** |
| delaySeconds | downloadArgsType | ***dss*** |
| successURL | downloadArgsType | ***surl*** |
| startTime | downloadArgsType | ***stt*** |
| completeTime | downloadArgsType | ***cpt*** |
| UUID | softwareInstallArgsType softwareUpdateArgsType, softwareUninstallArgsType | ***uuid*** |
| executionEnvRef | softwareInstallArgsType softwareUpdateArgsType, softwareUninstallArgsType | ***eer*** |
| version | softwareUninstallArgsType, tokenClaimSet | ***vr\**** |
| reset | execReqArgsListType | ***rst*** |
| reboot | execReqArgsListType | ***rbo\**** |
| upload | execReqArgsListType | ***uld*** |
| download | execReqArgsListType | ***dld*** |
| softwareInstall | execReqArgsListType | ***swin*** |
| softwareUpdate | execReqArgsListType | ***swup*** |
| softwareUninstall | execReqArgsListType | ***swun*** |
| tracingOption | deliveryMetaData | ***tcop*** |
| tracingInfo | deliveryMetaData | ***tcin*** |
| responseTypeValue | responseTypeInfo | ***rtv*** |
| notificationURI | responseTypeInfo | ***nu*** |
| timeOfDay | deletionContexts | ***tod*** |
| locationRegions | deletionContexts | ***lr*** |
| URIReference | contentRef | ***urir*** |
| semanticsFilter | filterCriteria | ***smf*** |
| missingData | eventNotificationCriteria | ***md*** |
| tokenID | tokenClaimSet, dynAuthLocalTokenIdAssignments | ***tkid*** |
| holder | tokenClaimSet | ***tkhd\**** |
| issuer | tokenClaimSet | ***tkis\**** |
| notBefore | tokenClaimSet | ***tknb\**** |
| notAfter | tokenClaimSet | ***tkna\**** |
| tokenName | tokenClaimSet | ***tknm\**** |
| audience | tokenClaimSet | ***tkau\**** |
| permissions | tokenClaimSet | ***tkps\**** |
| extension | tokenClaimSet | ***tkex\**** |
| permission | tokenPermissions | ***pm*** |
| resourceIDs | tokenPermission | ***ris*** |
| privileges | tokenPermission, setOfPermissions | ***pv\**** |
| roleIDs | tokenPermission | ***rids\**** |
| localTokenIdAssignment | dynAuthLocalTokenIdAssignments | ***ltia*** |
| localTokenID | dynAuthLocalTokenIdAssignment | ***lti*** |
| dasInfo | dynAuthTokenReqInfo | ***dasi*** |
| securedDasRequest | dynAuthTokenReqInfo | ***sdr*** |
| filterOperation | filterCriteria, eventNotificationCriteria | ***fo*** |
| targetedResourceType | dynAuthDasRequest | ***trt*** |
| originatorIP | dynAuthDasRequest | ***oip\**** |
| ipv4Address | dynAuthDasRequest, ipAddress | ***ip4*** |
| ipv6Address | dynAuthDasRequest, ipAddress | ***ip6*** |
| originatorLocation | dynAuthDasRequest | ***olo\**** |
| originatorRoleIDs | dynAuthDasRequest | ***orid*** |
| requestTimestamp | dynAuthDasRequest | ***rts*** |
| targetedResourceID | dynAuthDasRequest | ***trid*** |
| proposedPrivilegesLifetime | dynAuthDasRequest | ***ppl*** |
| roleIDsFromACPs | dynAuthDasRequest | ***rfa*** |
| tokenIDs | dynAuthDasRequest | ***tids*** |
| dynamicACPInfo | dynAuthDasResponse | ***dai*** |
| grantedPrivileges | dynAuthDasResponse | ***gp*** |
| privilegesLifetime | dynAuthDasResponse | ***pl*** |
| tokens | dynAuthDasResponse | ***tkns*** |
| securityInfoType | securityInfo | ***sit*** |
| dasRequest | securityInfo, dynAuthTokenReqInfo | ***dreq*** |
| dasResponse | securityInfo | ***dres*** |
| dynAuthRelMapRequest | securityInfo | ***darq*** |
| dynAuthRelMapResponse | securityInfo | ***dars*** |
| esprimRandObject | securityInfo | ***ero*** |
| esprimObject | securityInfo | ***epo*** |
| escertkeMessage | securityInfo | ***eckm*** |
| resourceRef | listOfChildResourceRef | ***rrf*** |
| resourceRefList | Response Primitive Content | ***rrl*** |
| esprimRandID | originatorESPrimRandObject, receiverESPrimRandObject | ***esri*** |
| esprimRandValue | originatorESPrimRandObject, receiverESPrimRandObject | ***esrv*** |
| esprimRandExpiry | originatorESPrimRandObject, receiverESPrimRandObject | ***esrx*** |
| esprimKeyGenAlgID | originatorESPrimRandObject | ***esk*** |
| esprimKeyGenAlgIDs | receiverESPrimRandObject | ***esks*** |
| esprimProtocolAndAlgIDs | originatorESPrimRandObject, receiverESPrimRandObject | ***espa*** |
| supportede2ESecFeatures | e2eSecInfo | ***esf*** |
| certificates | e2eSecInfo | ***escert*** |
| sharedReceiverESPrimRandObject | e2eSecInfo | ***esro*** |
| networkAction | backOffParameters | ***nwa*** |
| initialBackoffTime | backOffParameters | ***ibt*** |
| additionalBackoffTime | backOffParameters | ***abt*** |
| maximumBackoffTime | backOffParameters | ***mbt*** |
| optionalRandomBackoffTime | backOffParameters | ***rbt*** |
| backOffParametersSet | backOffParameters | ***bops*** |
| dataLink | listOfDataLinks | ***dali*** |
| attributeName | dataLink | ***atn*** |
| dataContainerID | dataLink | ***dcid*** |
| accessControlAuthenticationFlag | accessControlRule | ***acaf*** |
| accessControlObjectDetails | accessControlRule | ***acod*** |
| dataLinkEntry | listOfDataLinks | ***dle*** |
| childResourceType | accessControlObjectDetails, eventNotificationCriteria, filterCriteria | ***chty*** |
| parentResourceType | filterCriteria | ***pty*** |
| childLabels | filterCriteria | ***clbl***  |
| parentLabels | filterCriteria | ***palb*** |
| childAttribute | filterCriteria | ***catr*** |
| parentAttribute | filterCriteria | ***patr*** |
| applyRelativePath | filterCriteria | ***arp*** |
| sessionDescription | sessionDescriptions | ***sdc*** |
| activityPattern | activityPatternElements | ***apt*** |
| stationaryIndication | activityPattern | ***sti*** |
| dataSizeIndicator | activityPattern | ***dsi*** |
| eventNotificationCriteriaEntry | eventNotificationCriteriaSet | ***encn*** |
| memberURI | mashupMembers | ***muri*** |
| memberValue | mashupMembers | ***mvl*** |
| coordinates | location | ***crd*** |
| qosLevel | e2eQosRequirements | ***qosl*** |
| resourceIDList | e2eQosRequirements | ***ril*** |
| sessionSchedule | e2eQosRequirements | ***ssch*** |
| numOfRequests | e2eQosRequirements | ***nor*** |
| numOfBytes | e2eQosRequirements | ***nob*** |
| accessControlUserIDs | accessControlContexts | ***acui*** |
| timeSyncBeaconReference | timeSyncBeaconNotification | ***tbr*** |
| currentTime | timeSyncBeaconNotification | ***ctm\**** |
| timeOffset | timeSyncBeaconNotification | ***tost*** |
| target | setOfNotificationStatsInfo | ***tg\**** |
| requestsSent | setOfNotificationStatsInfo | ***rqs*** |
| responsesReceived | setOfNotificationStatsInfo | ***rsr*** |
| notificationEventCount | setOfNotificationStatsInfo | ***noec*** |
| operator | evalCriteria | ***optr*** |
| subject | evalCriteria | ***sbjt*** |
| threshold | evalCriteria | ***thld*** |
| contentString | actionInput | ***cstr*** |
| resourceID | actionInput | ***rsid*** |
| resourceAttributeID | actionInput | ***raid*** |
| subjectResourceID | softwareTriggerCriterion | ***srid*** |
| evalCriteria | softwareTriggerCriterion | ***evcr*** |
| softwareTriggerCriterionEntry | listOfSoftwareTriggerCriteria | ***stce*** |
| actionStatusEntry | listOfActionStatuses | ***swid*** |
| accessControlAttributes | accessControlRule | ***aca*** |
| evalCriteria | stateTransition, listOfEvalCriteria | ***evc\**** |
| nextState | stateTransition | ***nxst*** |
| stateTransition | listOfStateTransitions | ***sttr*** |
| NOTE: \* marked short names have been already assigned in attribute Table 8.2.3-1 to Table 8.2.3-6. |

### \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* End of Change 2 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*