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CHANGE REQUEST |
| Meeting ID:\* | SDS 69 |
| Source:\* | Tapan, C-DOT, tapan@cdot.inPoornima, C-DOT, poornima@cdot.inAndreas Kraft, andreas.kraft@exactagss.comBob Flynn, , bob.flynn@exactagss.com |
| Date:\* | 2025-03-31 |
| Reason for Change/s:\* | See the Introduction |
| CR against: Release\* | Rel 5 |
| CR against: WI\* | [ ]  Active <Work Item number>[ ]  MNT maintenance / < Work Item number(optional)>Is this a mirror CR? Yes [ ]  No [ ] mirror CR number: (Note to Rapporteur - use latest agreed revision)[x]  STE Small Technical Enhancements / < Work Item number (optional)>Only ONE of the above shall be ticked |
| CR against: TS/TR\* | TS-0001 |
| Clauses \* | 9.6.1.3.2, 9.6.5, 9.6.6, 9.6.18, 9.6.35,9.6.36,9.6.159.6.5,9.6.4 |
| Type of change: \* | [ ]  Editorial change[ ]  Bug Fix or Correction[ ]  Change to existing feature or functionality[x]  New feature or functionalityOnly ONE of the above shall be ticked |
| Other TS/TR(s) impacted | TS-0004 |
| Post Freeze checking:\* | This CR contains only essential changes and corrections? YES [ ]  NO [ ] This CR may break backwards compatibility with the last approved version of the TS? YES [ ]  NO [ ]  |
| Template Version: January 2020 (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.

If this is a correction, and the change applies to previous releases, a separate “mirror CR” should be posted at the same time as 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. Include any changes to references, definitions, and abbreviations in the same deliverable.

Follow the drafting rules.

All pictures must be editable.

Check spelling and grammar.

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 proposed new clause is 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 the 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

The CR proposes a new attribute *lastAccessTime* in *<AE>* resource. The purpose of this attribute is to determine the time when the *<AE>* last sent/received the message. This will help in figuring out whether the application on device is working properly. The CR proposes introducing a new attribute, *lastAccessTime* in the *<AE>* resource. This attribute records the last time the *<AE>* sent or received a message, helping to determine whether the application on the device is functioning properly.

This CR proposes to add following attribute to *<AE>* resource :

1. **lastAccessTime**

This CR proposes to add following attribute to the *<remoteCSE>* resource :

**1.    lastAccessTime**

### -----------------------Start of change 1-------------------------------------------

### 9.6.5 Resource Type *AE*

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The *<AE>* resource shall contain the attributes specified in table 9.6.5-2.

Table 9.6.5-2: Attributes of *<AE>* resource

| Attributes of *<AE>* | Multiplicity | RW/RO/WO | Description | *<AEAnnc>* Attributes |
| --- | --- | --- | --- | --- |
| *resourceType* | 1 | RO | See clause 9.6.1.3. | NA |
| *resourceID* | 1 | RO | See clause 9.6.1.3. Contains the AE‑ID‑Stem of the AE (see clause 7.2 on identifier formats and clause 10.2.2.2 for AE registration procedure). | NA |
| *resourceName* | 1 | WO | See clause 9.6.1.3. | NA |
| *parentID* | 1 | RO | See clause 9.6.1.3. | NA |
| *expirationTime* | 1 | RW | See clause 9.6.1.3. | MA |
| *accessControlPolicyIDs* | 0..1 (L) | RW | See clause 9.6.1.3. | MA |
| *creationTime* | 1 | RO | See clause 9.6.1.3. | NA |
| *lastModifiedTime* | 1 | RO | See clause 9.6.1.3. | NA |
| *labels* | 0..1 (L) | RW | See clause 9.6.1.3. | MA |
| *announceTo* | 0..1 (L) | RW | See clause 9.6.1.3. | NA |
| *announcedAttribute* | 0..1 (L) | RW | See clause 9.6.1.3. | NA |
| *announceSyncType* | 0..1 | RW | See clause 9.6.1.3. | MA |
| *dynamicAuthorizationConsultationIDs* | 0..1 (L) | RW | See clause 9.6.1.3. | OA |
| *location* | 0..1 | RW | See clause 9.6.1.3. | OA |
| *custodian* | 0..1 | RW | See clause 9.6.1.3. | NA |
| *appName* | 0..1 | RW | The name of the application, as declared by the application developer (e.g. "HeatingMonitoring").Several sibling resources may share the *appName*. | OA |
| *App-ID* | 1 | WO | The identifier of the Application (see clause 7.1.3). | OA |
| *AE-ID* | 1 | RO | The identifier of the Application Entity (see clause 7.1.2). | OA |
| *M2M-Ext-ID* | 0..1 | RW | See clause 7.1.8 where this attribute is described. This attribute is used only for the case of dynamic association of M2M‑Ext-ID and AE-ID. | NA |
| *trigger-Recipient-ID* | 0..1 | RW | See clause 7.1.10 where this attribute is described. This attribute is used only for the case of dynamic association of M2M‑Ext-ID and AE-ID. | NA |
| *triggerReferenceNumber* | 0..1 | RW | This is to identify device trigger procedure request. This attribute is used only for device trigger and assigned by the CSE. | NA |
| *pointOfAccess* | 0..1 (L) | RW | The list of addresses for communicating with the registered Application Entity over Mca reference point via the transport services provided by Underlying Network (e.g. IP address, FQDN, URI). This attribute shall be accessible only by the AE and the Hosting CSE.If this information is not provided and the <pollingChannel> resource does exist, the AE should use *<pollingChannel>* resource. Then the Hosting CSE can forward a request to the AE without using the PoA. | OA |
| *registrationStatus* | 0..1 | RW | Denotes status of the AE registration. If ACTIVE, the <AE> resource and all its child resources may be discoverable. If INACTIVE, the <AE> resource and all its child resources shall not be discoverable.Set to ACTIVE during an AE registration or re-registration. When an AE changes its registration point, the registration at the old registration point is set to INACTIVE. | OA |
| *trackRegistrationPoints* | 0..1 | RW | Denotes if the Application Entity requests that its Registration Points be tracked. If TRUE, AE requests to be tracked as it changes its Registration Points. If FALSE, the AE requests not to be tracked as it changes its Registration Points. | OA |
| *ontologyRef* | 0..1 | RW | A URI of the ontology used to represent the information that is managed and understood by the AE. | OA |
| *requestReachability* | 1 | RW | This attribute is an indication of static capability of the AE that created this *<AE>* resource. If the AE can receive requests originated at or forwarded by its registrar CSE, this attribute is set to "TRUE" otherwise "FALSE". | OA |
| *nodeLink* | 0..1 | RW | The *resource identifier* of a *<node>* resource that stores the node specific information of the node on which the AE represented by this *<AE>* resource resides. | OA |
| *contentSerialization* | 0..1 (L) | RW | The list of supported serializations of the ***Content*** primitive parameter for receiving a request and a response from its registrar CSE. (e.g. XML, JSON, CBOR). The list shall be ordered so that the most preferred format comes first. | OA |
| *e2eSecInfo* | 0..1 | RW | See clause 9.6.1.3. | MA |
| *activityPatternElements* | 0..1(L) | RW | This attribute describes the anticipated availability of the AE for communications. See further description below and table 9.6.4-3. | OA |
| *triggerEnable* | 0..1 | RW | When set to "TRUE", trigger requests may be sent to the AE represented by this <*AE*> resource. When set to "FALSE" trigger requests shall not be sent to this AE. | OA |
| *sessionCapabilities* | 0..1 (L) | RW | The list of supported session media types (e.g. audio, video, image) and supported session protocols (e.g. RTP, RTP/AVP) as defined by session parameters as defined by the IETF IANA Session Descriptor Protocol (SDP) Parameter Registry. | OA |
| *supportedReleaseVersions* | 0..1(L) | RW | The oneM2M release versions supported by the Registree AE represented by this <*AE*> resource.Starting with Release 2, this attribute is mandatory for an AE. For AEs compliant to older releases, this attribute is optional. For AEs that do not include this attribute, the default release version shall be Release 1. | MA |
| *externalGroupID* | 0..1 | RW | It is used by an M2M Service Provider (M2M SP) when services targeted to a group of M2M Devices are requested from the Underlying Network. It is assumed to be a globally unique ID exposed by the underlying network to identify a group of M2M Devices (e.g. ADN, ASN, MN) for group related services. | OA |
| *enableTimeCompensation* | 0..1 | RW | Enables time offset compensation functionality. When set to "TRUE", the Registrar CSE peforms time offset compensation for the Registree AE. If "FALSE", the Registrar CSE does not perform time offset compensation. See clause 10.2.24.Default value is "FALSE". | NA |
| *lastAccessTime* | 0..1 | RO | Last message sent/received by the *<AE>*. The attribute value is set by the Hosting CSE when a request from an *<AE>* is received or a request to an *<AE>* is sent. | NA |
| NOTE:For the case of a response, this attribute is applicable if the corresponding request does not contain the serialization format of the *Content* request parameter to allow a CSE to determine the proper serialization format to use in the response. |

The set of activity patterns represented in the *activityPatternElements* attribute describes the anticipated availability of the AE for communications. The set provides the anticipated activity timing pattern and might provide additional information about the anticipated mobility status and expected data size to be exchanged. Each *activityPatternElements* item is comprised of triples (*scheduleElement*, *stationaryIndication*, *datasizeIndicator*) with parameters shown and described in table 9.6.4-3.

### -----------------------End of change 1-------------------------------------------

### -----------------------Start of change 2-------------------------------------------

### 9.6.4 Resource Type *remoteCSE*

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The <remoteCSE> resource shall contain the attributes specified in table 9.6.4-2.

Table 9.6.4-2: Attributes of *<remoteCSE>* resource

| Attributes of *<remoteCSE>* | Multiplicity | RW/RO/WO | Description | *<remoteCSEAnnc>* Attributes |
| --- | --- | --- | --- | --- |
| *resourceType* | 1 | RO | See clause 9.6.1.3. | NA |
| *resourceID* | 1 | RO | See clause 9.6.1.3. | NA |
| *resourceName* | 1 | WO | See clause 9.6.1.3. | NA |
| *parentID* | 1 | RO | See clause 9.6.1.3. | NA |
| *creationTime* | 1 | RO | See clause 9.6.1.3. | NA |
| *lastModifiedTime* | 1 | RO | See clause 9.6.1.3. | NA |
| *expirationTime* | 1 | RW | See clause 9.6.1.3. | MA |
| *accessControlPolicyIDs* | 0..1 (L) | RW | See clause 9.6.1.3. | MA |
| *labels* | 0..1 (L) | RW | See clause 9.6.1.3. | MA |
| *announceTo* | 0..1 (L) | RW | See clause 9.6.1.3. | NA |
| *announcedAttribute* | 0..1 (L) | RW | See clause 9.6.1.3. | NA |
| *announceSyncType* | 0..1 | RW | See clause 9.6.1.3. | MA |
| *dynamicAuthorizationConsultationIDs* | 0..1 (L) | RW | See clause 9.6.1.3. | OA |
| *location* | 0..1 | RW | See clause 9.6.1.3. | OA |
| *custodian* | 0..1 | RW | See clause 9.6.1.3. | NA |
| *cseType* | 0..1 | WO | Indicates the type of CSE represented by the created resource.* Mandatory for an IN-CSE, hence multiplicity (1).
* Its presence is subject to SP configuration in case of an ASN‑CSE or a MN-CSE.
 | OA |
| *pointOfAccess* | 0..1 (L) | RW | For request-reachable remote CSE it represents the list of physical addresses to be used to connect to it (e.g. IP address, FQDN).If this information is not provided and <pollingChannel> resource does exist, the CSE should use *<pollingChannel>* resource. Then the Hosting CSE can forward a request to the CSE without using the PoA. | OA |
| *CSEBase* | 1 | WO | The address of the <*CSEBase>* resource represented by this *<remoteCSE>* resource. | OA |
| *CSE-ID* | 1 | WO | The CSE identifier of the remote CSE represented by this <*remoteCSE*> resource (clause 7.2). | OA |
| *M2M-Ext-ID* | 0..1 | RW | See clause 7.1.8 where this attribute is described. This attribute is used only for the case of dynamic association of M2M-Ext-ID and CSE-ID. | NA |
| *Trigger-Recipient-ID* | 0..1 | RW | See clause 7.1.10 where this attribute is described. This attribute is used only for the case of dynamic association of M2M‑Ext-ID and CSE-ID. | NA |
| *requestReachability* | 1 | RW | This attribute is an indication of static capability of the CSE that created this *<remoteCSE>* resource. If the CSE can receive requests originated at or forwarded by its registrar CSE, this attribute is set to "TRUE" otherwise "FALSE" (see note 1). | OA |
| *nodeLink* | 0..1 | RW | The *resource identifier* of a *<node>* resource that stores the node specific information of the node on which the CSE represented by this *<remoteCSE>* resource resides. | OA |
| *contentSerialization* | 0..1 (L) | RW | The list of supported serializations of the ***Content*** primitive parameter for receiving a request (e.g. XML, JSON). The list shall be ordered so that the most preferred format comes first. | OA |
| *e2eSecInfo* | 0..1 | RW | See clause 9.6.1.3. | MA |
| *triggerReferenceNumber* | 0..1 | RW | This is to identify device trigger procedure request. This attribute is used only for device trigger and assigned by the CSE. | NA |
| *descendantCSEs* | 0..1(L) | RW | This attribute contains a list of identifiers of descendent CSEs of the Registree CSE represented by this <remoteCSE> resource. A descendant CSE is a CSE that either registers to the CSE represented by this <remoteCSE>, or registers to another CSE which is a descendant CSE of this <remoteCSE>. The Registree CSE represented by this <remoteCSE> shall configure this attribute with a list of descendent CSEs upon creation of the <remoteCSE> resource. The Registree CSE shall update this attribute whenever a new descendent CSE either registers or de-registers. The Registree CSE shall detect when a descendent CSE registers or de-registers by monitoring its <remoteCSE> resources and the descendent CSEs attribute(s) of these <remoteCSE> resources.For a <remoteCSE> resource representing a Registrar CSE this attribute shall not be set. | OA |
| *multicastCapability* | 0..1 | RW | Indicates the oneM2M node multicast Capability, pre-defined values are:* MBMS.
* IP.
 | OA |
| *externalGroupID* | 0..1 | RW | It is used by an M2M Service Provider (M2M SP) when services targeted to a group of M2M Devices are requested from the Underlying Network. It is assumed to be a globally unique ID exposed by the underlying network to identify a group of M2M Devices (e.g. ASN, MN) for group related services. | OA |
| *triggerEnable* | 0..1 | RW | When set to "TRUE", trigger requests may be sent to the CSE represented by this <*remoteCSE*> resource. When set to "FALSE" trigger requests shall not be sent to this CSE. | OA |
| *activityPatternElements* | 0..1(L) | RW | This attribute describes the anticipated availability of the CSE for communications. See further description below and table 9.6.4-3. | OA |
| *supportedReleaseVersions* | 0..1(L) | RW | The oneM2M release versions supported by the CSE represented by this <*remoteCSE*> resource.Starting with Release 2, this attribute is mandatory for a CSE. For CSEs compliant to older releases, this attribute is optional. For CSEs that do not include this attribute, the default release version shall be Release 1. | MA |
| *enableTimeCompensation* | 0..1 | RW | Enables time offset compensation functionality. When set to "TRUE", the Registrar CSE peforms time offset compensation for the Registree CSE. If "FALSE", the Registrar CSE does not perform time offset compensation. See clause 10.2.24.Default value is "FALSE". | NA |
| *lastAccessTime* | 0..1 | RO | Last message sent/received by the *<remoteCSE>*. The attribute value is set by the Hosting CSE when a request from a *<remoteCSE>* is received or a request to a *<remoteCSE>* is sent. | NA |
| NOTE-1: Even if this attribute is set to "FALSE", it is not meant that the CSE is always unreachable by its registrees. E.g. if the CSE and its registrees are behind the same NAT, then the CSE can receive requests from its registrees. See also *pollingChannel* description in clause 9.6.21.NOTE-2: For the case of a response, this attribute is applicable if the corresponding request does not contain the serialization format of the *Content* request parameter to allow a CSE to determine the proper serialization format to use in the response. |

The set of activity patterns represented in the *activityPatternElements* attribute describes the anticipated availability of the CSE for communications. The set provides the anticipated activity timing pattern, and may provide additional information about the anticipated mobility status and expected data size to be exchanged. Each *activityPatternElements* item is comprised of triples (*scheduleElement*, *stationaryIndication*, *dataSizeIndicator*) with parameters shown and described in table 9.6.4-3.

Table 9.6.4-3: Parameters in *activityPatternElements* triple

| Name | Description |
| --- | --- |
| *scheduleElement* | See clause 9.6.9. This parameter shall be composed from seven fields of second, minute, hour, day of month, month, day of week and year. This is a mandatory parameter in the triple. This parameter indicates the times when the entity is available to send and receive primitives. |
| *stationaryIndication* | It indicates the field node as 'Stationary (Stopping)' or 'Mobile (Moving)' for the traffic pattern. The default value is NULL, denoting that no *stationaryIndication* is provided. |
| *dataSizeIndicator* | It indicates the expected data size for the traffic pattern. The default value is NULL, denoting that no *dataSizeIndicator* is provided. |

### -----------------------End of change 2-------------------------------------------

CHECK LIST

* Does this Change Request include an informative introduction containing the problem(s) being solved, and a summary list of proposals.?
* Does this CR contain changes related to only one particular issue/problem?
* Have any mirror CRs been posted?
* Does this Change Request make **all** the changes necessary to address the issue or problem? E.g. A change impacting 5 tables should not include a proposal to change only 3 tables?Does this Change Request follow the drafting rules?
* Are all pictures editable?
* Have you checked the spelling and grammar?
* Have you used change bars for all modifications?
* Does the change 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.)
* Are multiple changes in this CR 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.?