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| CHANGE REQUEST |
| Meeting ID:\* |  SDS 45 |
| Source:\* | JaeSeung Song, KETI, jssong@sejong.ac.krMinbyeong Lee, Hyundai Motors, minbyeong.lee@hyundai.com  |
| Date:\* | 2020-05-06 |
| Reason for Change/s:\* | See the introduction below |
| CR against: Release\* | Release 4 |
| CR against: WI\* | [ ]  Active WI-0084[ ]  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 v.4.4.0 |
| Clauses \* | 9.6.59, 10.2.4.30 |
| 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 |
| Impacted other TS/TR(s) |  |
| Post Freeze checking:\* | This CR contains only essential changes and corrections? YES [ ]  NO [x] 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

Based on the recommendation for the offloading feature of Edge/Fog computing in TR-0052, this contribution proposes to add additional attributes and behavior to the announcement resource in TS-0001.

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

## 2.2 Informative references

References are either specific (identified by date of publication and/or edition number or version number) or non‑specific. For specific references, only the cited version applies. For non-specific references, the latest version of the reference document (including any amendments) applies.

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

[i.1] oneM2M TS-0002: "Requirements".

[i.2] Broadband Forum TR-069: "CPE WAN Management Protocol Issue": 1 Amendment 5, November 2013.

[i.3] OMA-DM: "OMA Device Management Protocol", Version 1.3, Open Mobile Alliance.

[i.4] LWM2M: "OMA LightweightM2M", Version 1.0, Open Mobile Alliance.

[i.5] OMA-TS-MLP-V3-4-20130226-C: "Mobile Location Protocol", Version 3.4.

[i.6] OMA-TS-REST-NetAPI\_TerminalLocation-V1\_0-20130924-A: "RESTful Network API for Terminal Location", Version 1.0.

[i.7] IETF RFC 1035: "Domain names - Implementation and specification".

[i.8] IETF RFC 3588: "Diameter Base Protocol".

[i.9] IETF RFC 3596: "DNS Extensions to Support IP Version 6".

[i.10] IETF RFC 3986: "Uniform Resource Identifier (URI): General Syntax".

[i.11] IETF RFC 4006: "Diameter Credit-Control Application".

[i.12] IETF RFC 6895: "Domain Name System (DNS) IANA Considerations".

[i.13] GSMA-IR.67: "DNS/ENU Guidelines for Service Providers & GRX/IPX Providers".

[i.14] 3GPP TS 23.682: "Architecture enhancements to facilitate communications with packet data networks and applications (Release 13)".

[i.15] ETSI TS 132 240: "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; Telecommunication management; Charging management; Charging architecture and principles (3GPP TS 32.240)".

[i.16] ETSI TS 132 299: "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; Telecommunication management; Charging management; Diameter charging applications (3GPP TS 32.299)".

[i.17] 3GPP2.S0068: "Network Enhancements for Machine to Machine (M2M)".

[i.18] JNI 6.0 API Specification: "Java Native Interface 6.0 Specification". .

Void

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[i.23] 3GPP TS 23.003: "Numbering, addressing and identification".

[i.24] Recommendation ITU-T X.660 | ISO/IEC 9834-1: "Information technology - Procedures for the operation of object identifier registration authorities: General procedures and top arcs of the international object identifier tree".

[i.25] oneM2M TR-0008: "Analysis of Security Solutions for oneM2M System".

[i.26] IETF RFC 4122: "A Universally Unique IDentifier (UUID) URN Namespace".

[i.27] oneM2M Drafting Rules.

NOTE: Available at <http://www.onem2m.org/images/files/oneM2M-Drafting-Rules.pdf>

[i.28] oneM2M TR-0007: "Study of Abstraction and Semantics Enablement".

Void

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[i.31] OMA-TS-REST-NetAPI-CommunicationPatterns-V1-0: '"RESTful Network API for Communication Patterns'", Version 1.0, Open Mobile Alliance.

[i.[32](#REF_3GPPTS23246)] 3GPP TS 23.246: Multimedia Broadcast/Multicast Service (MBMS); Architecture and functional description; (Release 14).

[i.33] 3GPP TS 23.468: Group Communication System Enablers for LTE (GCSE\_LTE); (Release 14).

[i.34] IETF RFC 3171: “IANA Guidelines for IPv4 Multicast Address Assignments”, 2001

[i.35] IETF RFC 4291: “IP Version 6 Addressing Architecture”, 2006

[i.36] IETF RFC 6838: “Media Type Specifications and Registration Procedures”, 2013

[i.[37](#REF_IETFRFC3987)] IETF RFC 3987: "Internationalized Resource Identifiers (IRIs)".

[i.38] oneM2M TR-0052: "Study on Edge and Fog Computing in oneM2M systems".

NOTE: Available at <https://www.ietf.org/rfc/rfc3987.txt>.

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

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

## 9.2 Resources

### 9.2.0 Overview

This clause introduces the resources used in a CSE. A resource scheme is used for modelling the resource structure and associated relationships. Clause 9.5 provides guidelines on how to describe a resource. The present document identifies three categories of resources:

* Normal resources (clause 9.2.1).
* Virtual resources (clause 9.2.2).
* Announced resources (clause 9.2.3).

### 9.2.1 Normal Resources

Normal resources include the complete set of representations of data which constitutes the base of the information to be managed.

Unless qualified as either "virtual" or "announced", the resource types in the present document are normal resources.

### 9.2.2 Virtual Resources

A virtual resource is used to trigger processing and/or retrieve results, but they do not have a permanent representation in a CSE.

### 9.2.3 Announced Resources

An announced resource contains a set of attributes of the original resource. An announced resource is updated automatically by the Hosting CSE of the original resource whenever the original resource changes. The announced resource contains a link to the original resource.

Resource announcement can facilitate resource discovery. The announced resource at a remote CSE can also be used for creating child resources at the remote CSE that are not present as children of the original resource or are not announced children of the original resource.

The following are the resource specification guidelines for resource announcement:

* In order to support announcement of resources, an additional column in the resource template (clause 9.5.1), shall specify the attributes to be announced for inclusion in the associated announced resource type.
* For each announced *<resourceType>*, the addition of suffix "Annc" to the original *<resourceType>* shall be used to indicate its associated announced resource type. For example, resource *<containerAnnc>* shall indicate the announced resource type for *<container>* resource; *<groupAnnc>* shall indicate announced resource type for *<group>* resource, etc.

Resource announcement can also facilitate resource offloading to be used for Edge/Fog computing described in TR-0052 [i38]. In this case, a resource that is announced to an edge/fog node can be updated. The original resource of such announced resource is updated automatically whenever the announced resource changes. Figure X shows how updates to the original resource and announced resources are different. If there is an announced resource(s), any updates to the original resource shall be reflected to all the announced resources (left). If the announced resource allowed to be updated changes, the original resource and all other announced resources shall be updated (right).



Figure x. Synchronization types based on update to original resource and announced resource

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

### \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Start of Change 3 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

##### 9.6.1.3.2 Common attributes

The following attributes are commonly used in multiple, but not all, resource types which are normal, not virtual or announced. Common attributes for announced resource types are independently defined in clause 9.6.26.3.

NOTE: The list of attributes in table 9.6.1.3.2-1 is not exhaustive.

Table 9.6.1.3.2-1: Common Attributes

| Attribute Name | Description |
| --- | --- |
| *accessControlPolicyIDs* | The attribute contains a list of identifiers for *<accessControlPolicy>* resources. The privileges defined in the *<accessControlPolicy>* resources that are referenced determine who is allowed to access the resource containing this attribute for a specific purpose (e.g. Retrieve, Update, Delete, etc.).For an Update operation to a resource, it is forbidden to change the *accessControlPolicyIDs* attribute in the same request to Update other attributes of the targeted resource, i.e a request to Update the *accessControlPolicyIDs* attribute shall be the only attribute in the UPDATE request.To update the *accessControlPolicyIDs* attribute, a Hosting CSE shall check whether the Originator has Update privilege in any current *selfPrivileges* of the *<accessControlPolicy>* resources which this attribute references.To update any attribute other than the *accessControlPolicyIDs* attribute, a Hosting CSE shall check whether the Originator has Update privilege in any *privileges,* of the *<accessControlPolicy>* resources which the *accessControlPolicyIDs* attribute references.If a resource type does not have an *accessControlPolicyIDs* attribute definition, then the *accessControlPolicyIDs* for that resource is governed in a different way, for example, the *accessControlPolicy* associated with the parent may apply to a child resource that does not have an *accessControlPolicyIDs* attribute definition, or the privileges for access are fixed by the system. Refer to the corresponding resource type definitions and procedures to see how access control is handled in such cases.If a resource type does have an *accessControlPolicyIDs* attribute definition, but the (optional) *accessControlPolicyIDs* attribute value is not set in a resource instance, then the Hosting CSE shall apply the concept of the default access policy. The Hosting CSE shall first check whether the resource has an *owner* attribute configured and if so, the default policy shall provide unrestricted access only to the owner. If the *owner* attribute is not configured, then the default policy shall provide unrestricted access only to the Originator of the successful resource creation request. All other entities shall be denied to access the resource. For that purpose, the Hosting CSE shall keep that Originator information of the resource. Note that how to keep that information is implementation specific. The default access policy is not applied to a resource which has a value assigned to the a*ccessControlPolicyIDs* attribute.All resources are accessible if and only if the privileges (i.e. configured as *privileges* or *selfPrivileges* attribute of <accessControlPolicy> resource) allow it, therefore all resources shall have an associated *accessControlPolicyIDs* attribute, either explicitly (setting the attribute in the resource itself) or implicitly (either by using the parent privileges or the system default policies). Which means that the system shall provide default access privileges in case that the Originator does not provide a specific *accessControlPolicyIDs* during the creation of the resource. |
| *expirationTime* | Time/date after which the resource will be deleted by the Hosting CSE. This attribute can be provided by the Originator, and in such a case it will be regarded as a hint to the Hosting CSE on the lifetime of the resource. The Hosting CSE shall configure the *expirationTime* value. If the Hosting CSE configures the new *expirationTime* attribute value rather than the Originator suggested value, the new value can be sent back to the Originator depending on the ***Result Content*** value.The lifetime of the resource can be extended by providing a new value for this attribute in an UPDATE operation. Or by deleting the attribute value, e.g. by updating the attribute with NULL when doing a full UPDATE, in which case the Hosting CSE can decide on a new value.If the Originator does not provide a value in the CREATE operation the system shall assign an appropriate value depending on its local policies and/or M2M service subscription agreements.A resource is known as 'obsolete' when the resource contains the attribute "expirationTime" and the lifetime of this resource has reached the value of this attribute. If the ‘obsolete’ resource had a reference to an Application Entity Resource ID, the Hosting CSE shall send a NOTIFY request to the IN-CSE, requesting to delete the entry from the <AEContactList> resource. |
| *stateTag* | An incremental counter of modification on the resource. When a resource is created, this counter is set to 0, and it will be incremented on every modification of the resource (see notes 1 and 2).  |
| *announceTo* | This attribute may be included in a CREATE or UPDATE Request in which case it contains a list of addresses/CSE-IDs where the resource is to be announced. For the case that CSE-IDs are provided, the announced-to CSE shall decide the location of the announced resources based on the rules described in clause 9.6.26.For the original resource, this attribute shall only be present if it has been successfully announced to other CSEs. This attribute maintains the list of the resource addresses to the successfully announced resources. Updates on this attribute will trigger new resource announcement or de-announcement.If *announceTo* attribute includes resource address(s), the present document does not provide any means for validating these address(s) for announcement purposes. It is the responsibility of the Hosting-CSE referenced by the resource address(s) to validate the access privileges of the originator of the Request that triggers the announcement.This attribute also includes the type of resource announcements whether the announced resource is allowed to be updated or not. Each resource address(s) is indicated with a resource announcement type. Possible values are as follows: * Non-updatable
* Updatable
 |
| *announcedAttribute* | This attributes shall only be present at the original resource if some Optional Announced **(OA)** type attributes have been announced to other CSEs. This attribute maintains the list of the announced Optional Attributes (**OA** type attributes) in the original resource. Updates to this attribute will trigger new attribute announcement if a new attribute is added or de-announcement if the existing attribute is removed. |
| *announceSyncType* | This attribute indicates the types of synchronization for resource announcement. Possible values are as follows: * Uni-directional synchronization: Announced resource(s) is updated if the original resource is updated
* Bi-directional synchronization: Announced resource(s) is updated if the original resource is updated and vice versa

  |
| *labels* | Tokens used to add meta-information to resources.This attribute is optional.The value of the *labels* attribute is a list of individual labels, each of them being:* Either a standalone label-key, used as a simple "tag", that can be used for example for discovery purposes when looking for particular resources that one can "tag" using that label-key
* Or a composite element made of a label-key and a label-value, separated by a special character defined in [3].

The list of allowed characters in a label (and in label-keys and label-values) and separator characters is defined in [3], clause 6.3.3. |
| *e2eSecInfo* | Present in a resource representing an AE or CSE. Indicates the end-to-end security capabilities supported by the AE or CSE. May indicate supported end-to-end security frameworks. May also contains a certificate or credential identifier used by the AE or CSE. May include random values for use in end-to-end security protocols. The details of this attributes are described in oneM2M TS-0003 [2].This attribute is optional and if not present it means that the represented entity does not support oneM2M end-to-end security procedures. |
| *dynamicAuthorizationConsultationIDs* | This attribute contains a list of identifiers of *<dynamicAuthorizationConsultation>* resources. The information defined in a *<dynamicAuthorizationConsultation>* resource is used by a CSE for initiating consultation-based dynamic authorization requests.Consultation-based dynamic authorization is only performed for a targeted resource if and only if it is linked to an enabled *<dynamicAuthorizationConsultation>* resource.If the attribute is not set or has a value that does not correspond to a valid *<dynamicAuthorizationConsultation>* resource(s), or it refers to an *<dynamicAuthorizationConsultation>* resource(s) that is not reachable, then the *dynamicAuthorizationConsultationIDs* associated with the parent may apply to the child resource if present, or a system default *<dynamicAuthorizationConsultation>* may apply if present. |
| *creator* | The AE-ID or CSE-ID of the entity which created the resource containing this attribute. |
| *location* | This attribute contains the geo-coordinates of entities or things represented by its resource types (e.g. AE, container). Longitude and Latitude are shall be included as a coordinate and optionally altitude may also be included. The representation format shall follow the definition in the GeoJSON format [16]. This attribute can be used for geo-query (Clause 10.2.6) with relevant filter conditions (Clause 8.1.2). |
| *resourceMappingRules* | This attribute contains a list of rules for mapping the resource and/or its attributes on a Registrar CSE to one or more corresponding resources/attributes hosted by a Registree AE. Each mapping rule contains various information elements as defined in table 9.6.1.3.2.1-1. The mapping rule information stored in this attribute enables a Registrar CSE to receive a request from an Originator that targets the local resource hosted by the Registrar CSE and retarget this request to a Registree AE for processing. Once the Registree AE finishes processing the retargeted request and returns a response, the Registrar CSE uses the mapping rule information contained in this attribute to update the local resource with the contents of the response and to formulate a response that it returns back to the request Originator. This attribute is applicable to a subset of content sharing resources (i.e. <container>, <flexContainer> and <timeSeries>) and the <mgmtObj> resource. |
| *owner* | The AE-ID, M2M-User-ID or CSE-ID of the entity which owns the resource containing this attribute. |
| NOTE 1: In order to enable detection of overflow, the counter needs to be capable of expressing sufficiently long numbers.NOTE 2: This attribute has the scope to allow identifying changes in resources within a time interval that is lower than the one supported by the attribute *lastModifiedTime* (e.g. less than a second or millisecond). This attribute can also be used to avoid race conditions in case of competing modifications. |

### \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* End of Change 3 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

### \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Start of Change 4 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

### 9.6.26 Resource Announcement

#### 9.6.26.1 Overview

A resource can be announced to one or more remote CSEs to inform the remote CSEs of the existence of the original resource. An announced resource can have a limited set of attributes and a limited set of child resources from the original resource. The announced resource includes a link to the original resource hosted by the original resource‑Hosting CSE.

In case that the original resource is deleted, all announced resources for the original resource shall be deleted, except for *<AEAnnc>* resources that were created during the registration of an AE with AE-ID-Stem starting with "S", which shall not be deleted. If the announced resource is not deleted promptly (e.g. the announced resource is not reachable), the announced resource can be deleted later either by the original resource Hosting CSE or by the expiration of the announced resource itself. The original resource shall store the list of links for the announced resources for those purposes.

Synchronization between the attributes announced by the original resource and the announced resource shall be the responsibility of the original resource Hosting CSE. There shall not be any synchronization for children created at the original resource and the announced resource. The access control policy for the announced resource shall synchronize with the one from the original resource. In case that the attribute *accessControlPolicyIDs* is not present in the original resource it is the responsibility of the original resource Hosting CSE to choose the appropriate value depending on the policy for the original resource (e.g. take the parent *accessControlPolicyIDs* value).

A resource can be announced and allowed to be updated to a remote CSE using the resource announcement. In this case, the following synchronization behaviours are expected:

* Whenever the announced resource changes, the remote CSE hosting the announced resource shall UPDATE the original resource on the Hosting CSE. Then the original resource Hosting CSE shall UPDATE all other announced resources(s) listed in the *announceTo* attribute.
* Whenever the original resource changes, all the announced resource(s) in the *announceTo* attribute shall be updated automatically. This time the Hosting CSE(s) of the announced resource allowed to be updated shall not try to update the original resource as the update comes from the original resource Hosting CSE.

The original resource shall have at least *announceTo* attribute present if the resource itself has been announced. If any of the Optional Announced (OA) attributes are also announced, then *announcedAttribute* attribute shall also be present. An AE or other CSE can request the original resource Hosting CSE for announcing the original resource to the list of CSE‑IDs or the address(es) listed in the *announceTo* attribute in the announcing request. An Update to the *announceTo* attribute will trigger new resource announcement(s) or the de-announcement(s) of the announced resource. After a successful announcement procedure the attribute *announceTo* contains only the list of address(es) of the announced resources.

In order to announce an attribute marked as **OA**(see clause 9.5.0), the attribute shall be included in the *announcedAttribute* attribute list at the original resource. The attributes included in the *announcedAttribute* attribute are announced to the announced resource. On successful announcement of the resource, such attributes shall be created at the announced resource; otherwise they shall not be present in the announced resource. Update to the *announcedAttribute* attribute in the original resource will trigger new attribute announcement or the de-announcement of the announced attribute(s). The announced attributes shall have the same value as the original resource, and synchronization between the value of the announced attributes at the original resource and the announced resource is the responsibility of the original resource Hosting CSE.

An announced resource may have child resources. In general, a child resource of an announced resource shall be of one of the resource types that are specified as possible child resource types for the original resource or of one of their associate announced resource types. However, for specific announced resource types, specific exceptions apply regarding which child resource types can occur. The details on which child resources are specified for each announced resource type are summarized in Table 9.6.26.1-1.

Child resources of the original resource can be announced independently as needed. In this case, the child resources at the announced resource shall be of the child resource’s associated announced type. When a child resource at the announced resource is created locally at the remote CSE, the child resource shall be of ordinary – i.e. not-announced – child resource type.

When a Hosting CSE of an original resource is initiating an announcement, it shall first check if it is a Registree or the Registrar of the announcement target CSE. If that is the case, the announced resource shall be created as a direct child of the Hosting CSE’s <*remoteCSE*> hosted by the announcement target CSE. If that is not the case, the Hosting CSE shall next check if its <*remoteCSE*> resource has been announced to the announcement target CSE. The Hosting CSE shall perform this check by checking the *announceTo* attribute of its <*remoteCSE*> resource hosted on its Registrar CSE if the announcement target CSE is not a descendent CSE, or the corresponding Registree CSE if the announcement target CSE is a descendent CSE. If it is not announced, the Hosting CSE shall request that its Registrar CSE (If the target CSE is not its descendant CSE) or Registree CSE (if the target CSE is its descendant CSE) to create a <*remoteCSEAnnc*> resource representing the Hosting CSE as a direct child of the <*CSEBase*> representing the announcement target CSE. The announced resource shall then be created as a child resource of the <*remoteCSEAnnc*> resource.

When a Hosting CSE of an original resource is initiating an announcement, the *From* parameter of the announce request shall contain either a SP-relative-CSE-ID of the Hosting CSE of the original resource if the announcement target CSE resides in the same SP domain or an Absolute-CSE-ID of the Hosting CSE of the original resource if the announcement target CSE resides in a different SP domain.

If an attribute is marked as **RO** and also marked as **MA** or **OA**, then only the attribute of the original resource shall be interpreted as **RO**. The corresponding attribute of the announced resource shall be always writable to the original resource hosting CSE to allow it to properly announce and de-announce the attribute and keep the announced attribute synchronized with the original one. Only the original resource Hosting CSE shall be allowed to update and delete the announced attribute which is created by the original resource Hosting CSE.

### \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* End of Change 3 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

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