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| CHANGE REQUEST | |
| Meeting ID:\* | ARC 31 |
| Source:\* | Poornima, C-DOT, [poornima@cdot.in](mailto:poornima@cdot.in)  Kapil, C-DOT, [kapil@cdot.in](mailto:kapil@cdot.in)  Suman, C-DOT, [ssheoran@cdot.in](mailto:ssheoran@cdot.in) |
| Date:\* | 2017-09-15 |
| Reason for Change/s:\* | See the introduction |
| CR against: Release\* | Release 2 |
| CR against: WI\* | Active <Work Item number>  MNT maintenance / < Work Item number(optional)>  Is this a mirror CR? Yes  No  mirror CR number: ARC-2017-0356(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-0001 Version 2.15.0 |
| Clauses \* | 10.2.6 |
| Type of change: \* | Editorial change  Bug Fix or Correction  Change to existing feature or functionality  New feature or functionality  Only ONE of the above shall be ticked |
| Impacted other TS/TR(s) | <TS/TR number>, <Version Number>, and <Description on which aspect should be reflected in this TS/TR> |
| 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 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

The CR proposes corrections in discovery procedures.

It is not clear that whether first discovery is to be performed as per filter criteria then limit is to be applied as per discover access control or only those resources are to be matched which have discover access control.

Case 1: In Discovery Procedures following is mentioned:

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| A match shall happen when a resource matches the configured filter criteria conditions and the Originator has a Discover access right on the resource. |

Case 2: While in Processing at Receiver:

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| * Searches matched resources from the addressed resource hierarchy. Any resources whose status is marked as “INACTIVE” are not searched, as well as any child resources of these “INACTIVE” resources. * Limits the discovery result according to DISCOVER privileges of the discovered resources. |

In case 1, when originator doesn’t have privilege on parent then it will not discover for its child resources.

In case 2, it will look for all the resources irrespective of DISCOVER privilege e.g. if discovery is performed on CSEBase then it will perform discovery on all its child resources irrespective of privileges and will limit the result later. It will be a very expensive query for CSE considering multiple discovery request falling on to it.

Second case, doesn’t look valid so corresponding corrections are made.

Also service subscriptions are not checked for discovery request so same is removed.

In exceptions, following line is mentioned:

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| * The requesting M2M AE or CSE is not registered. |

It means that requesting AE or CSE needs to be registered on the CSE **on which it performs discovery.** But this should not be the case. So this line is removed.

In ARC-2017-0402, Rel3 text was copied by mistake, so in ARC-2017-0402R01 revision, same is removed and changes are updated corresponding to TS-0001 Rel2 Discovery procedures.

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

### 10.2.6 Resource Discovery Procedures

#### 10.2.6.1 Introduction

The resource discovery procedures allow discovering of resources residing on a CSE. The use of the ***Filter Criteria*** parameter allows limiting the scope of the results.

Resource discovery shall be accomplished using the RETRIEVE method by an Originator which shall also include the root of where the discovery begins: e.g. *<CSEBase>.* The unfiltered result of the resource discovery procedure includes all the child resources under the root of where the discovery begins, which the Originator has a Discover access right on. For the allowed *Result Content* parameter options for Discovery related RETRIEVE see clause 8.1.2.

Filter criteria conditions may be provided as parameters to the RETRIEVE method. The filter criteria conditions describe the rules for resource discovery, e.g. resource types, creation time and matching string. The filter criteria can also contain the parameters for specifying the maximum number of discovered resources included in the response, the maximum limit on the number of levels in the resource tree (starting from the target resource) that the Hosting CSE shall perform the discovery request upon and an offset for specifying the number of discovered resources the Hosting CSE shall skip over and not include within the response. Table 8.1.2-2 describes the ***Filter Criteria*** parameter.

A match shall happen when a resource matches the configured filter criteria conditions and the Originator has a Discover access right on the resource. A successful response contains a list for the matched resources addressable in any of the forms expressed in clause 9.3.1 if matches are found. If no matches are found, a successful response returns no matched resources. If ***Discovery Result Type*** parameter is specified in a discovery request, the Hosting CSE shall choose the addressing form specified by the ***Discovery Result Type*** parameter.

The discovery results may be modified by the Hosting CSE to restrict the scope of discoverable resources according to the Originator's access control policy or M2M service subscription.

The Hosting CSE may also implement a configured upper limit on the size of the answer. In such a case when the Originator and the Hosting CSE have different upper limits, the smaller of the two shall apply.

#### 10.2.6.2 Discovery procedure via Retrieve Operation

This procedure shall be used for the discovery of resources under *<CSEBase>* that match the provided ***Filter Criteria***parameter. The discovery result shall be returned to the Originator using a successful Response message.

Table 10.2.6.2-1: Discovery procedure via Retrieve Operation

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| *<resource>* RETRIEVE | |
| Associated Reference Point | Mca, Mcc and Mcc'. |
| Information in Request message | All parameters defined in table 8.1.2-3 apply with the specific details for:  For the allowed *Result Content* parameter options for Discovery related RETRIEVE see clause 8.1.2.  ***To:*** Address of the root of where the discovery begins.  ***Filter Criteria:*** Filter criteria for searching and expected returned result. The *filterUsage* parameter shall be set in this case.  ***Discovery Result Type:*** optional, format of discovery results returned (see clause 8.1.2 for options applicable to Discovery, and how results shall be displayed). |
| Processing at Originator before sending Request | According to clause 10.1.2 with the following:   * Setup the RETRIEVE operation in the Request. * Include the conditions in the filter criterion to limit the scope of the discovery results. * Specify the desired format of returned discovery results. |
| Processing at Receiver | According to clause 10.1.2 with the following specific processing:   * Checks the validity of the Request (e.g. format of ***Filter Criteria***). * May change the filter criteria according to local policies. * Searches matched resources as per the DISCOVER privileges from the addressed resource hierarchy. * Limits the discovery result according to the upper limit on the size of the answer.   The Hosting CSE shall use the appropriate addressing (see clause 9.3.1) form for each element included in the list in accordance with the incoming request. If ***Filter Criteria*** is provided in the request, the Hosting CSE uses it identifying the resources whose attributes match the ***Filter Criteria***. The Hosting CSE shall respond to the Originator with the appropriate list of discovered resources in the Hosting CSE.  If the ***Filter Criteria*** includes *filterUsage* element set to "IPEOnDemandDiscovery", the target is the <AE> resource and the Hosting CSE has no match from the discovery of existing resources, then the Hosting CSE shall send a NOTIFY request containing the ***Filter Criteria*** to the AE(i.e. *pointOfAccess* of the <AE> resource) and the Originator ID of this discovery request. When the CSE gets the successful NOTIFY response with the resource address(es) which are created under the <AE> resource, then the CSE shall check the DISCOVER privilege and return the address(es) to the Originator. When the CSE gets the unsuccessful NOTIFY response, then the CSE shall send the ***Response Status Code*** in the NOTIFY response to the Originator.  The Hosting CSE may modify the ***Filter Criteria*** including upper limit provided by the Originator or the discovery results based on the local policies.  If the size of the result list is bigger than the upper limit or the scope of discoverable resources, according to the Originator's access control policy or service subscription has been modified by the Hosting CSE, the full list is not returned. Instead, an incomplete list is returned and an indication is added in the response for warning the requestor. |
| Information in Response message | All parameters defined in table 8.1.3-1 apply with the specific details for:   * Contains the address list of discovered resources expressed in any of the methods depicted in clause 9.3.1. The address list may be empty if no result matching the filter criterion is discovered. * Contains an incomplete list warning if the full list is not returned. |
| Processing at Originator after receiving Response | According to clause 10.1.2. |
| Exceptions | According to clause 10.1.2, with the following:   * The request contains invalid parameters. * The on-demand discovery was rejected by the requested M2M Application. |



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

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.?