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| CHANGE REQUEST |
| Meeting:\* | TP24 |
| Source:\* | InterDigital |
| Date:\* | 2016-07-19 |
| Contact:\* | Dale Seed (dale.seed@interdital.com)Bob Flynn (bob.flynn@interdigital.com) |
| Reason for Change/s:\* | Corrections identified during test purpose development |
| CR against: Release\* | Rel-1 |
| CR against: WI\* | [ ]  Active <Work Item number> [ ]  MNT Maintenace / < Work Item number(optional)>[x]  STE Small Technical Enhancements / < Work Item number (optional)>Only ONE of the above shall be ticked |
| CR against: TS/TR\* | TS-0004-V2.5.0 |
| Clauses/Sub Clauses\* |  |
| 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 |
| Post Freeze checking:\* | This CR contains only essential changes and corrections? YES [x]  NO [ ] This CR is a mirror CR? YES [x]  NO [ ]  if YES, please indicate the document number of the original CR: PRO-2016-0289-fanoutpoint\_corrections |
| Template Version:23 February 2015 (Dot not modify) |

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1. **Introduction**

This contribution document consist of editorial changes identified during test purposes development for group fanoutPoint requests.

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

#### Introduction

The <fanOutPoint> resource is a virtual resource because it does not have a representation. It is the child resource of a <group> resource. Whenever the request is sent to the <fanOutPoint> resource, the request is fanned out to each of the members of the <group> resource indicated by the memberIDs attribute of the <group> resource. The responses (to the request) from each member are then aggregated and returned to the Originator. The detailed description can be found in clause 9.6.14 in TS-0001 [6].

There are no common attributes, resource specific attributes or xsd file to <fanOutPoint> resource because it''s a virtual resource.

A <fanOutPoint> can be addressed in one of two ways:

* Using the URI retrieved from its parent <group> resource; or
* Using a hierarchical URI formed by taking the hierarchical URI of the parent <group> and appending the string /fanOutPoint to that URI

This hierarchical URI can be extended by appending further path elements beyond the place where /fanOutPoint/ occurs. A request sent to such a URI is not fanned out to the group members, but instead it is fanned out to the resources located by taking the hierarchical URI of each group member in turn and then appending the additional path elements to that URI.

For example, if /IN-CSE-0001/myGroup were a group with members

* /IN-CSE-0001/m1 and
* /IN-CSE-0001/m2

then a request sent to /IN-CSE-0001/myGroup/fanOutPoint/x/y would be fanned out to

* /IN-CSE-0001/m1/x/y and
* /IN-CSE-0001/m2/x/y

The additional path elements can reference virtual resources, for example if m1 and m2 were both <container> resources then a request sent to /IN-CSE-0001/myGroup/fanOutPoint/latest would be fanned out to the most recent <contentInstance> child resource of both m1 and m2.

If the members m1 and m2 are themselves also <group> resources, a request sent to /IN-CSE-0001/myGroup/fanOutPoint will be fanned out to all the members of m1 and all members of m2.

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

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

##### Sub-group creation for members residing on the same CSE

The group hosting CSE shall obtain URIs of addressed resources from the attribute ***memberIDs*** of the parent <group> resource. The group hosting CSE may determine that multiple member resources belong to the same remote member hosting CSE, and may perform as an Originator to request to create a sub-group containing the specific multiple member resources in that member hosting CSE. This sub-group is created in the member hosting CSE as described in clause **Error! Reference source not found.**. The ***To*** parameter of this group Create request may be <memberHosting cseBase>/<groupHosting remoteCse>/ or <memberHosting cseBase>/. The group hosting CSE shall also provide ***From*** parameter (i.e. group hosting CSE) and sub-group resource representation that contains a ***memberIDs*** attribute with all the members residing on the addressed member Hosting CSE. The sub-group representation may include the attribute ***accessControlPolicyID***s, so that both the group hosting CSE and all permissions of the original group apply to this sub-group. The ID of the sub-group may be proposed by the group hosting CSE and accepted by the member hosting CSE or it may be given by the member hosting CSE.
If there is already a sub-group resource defined in the remote member hosting CSE, then the group hosting CSE may utilize the existing sub-group resource.

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

## ----------------------- Start of change 3 -----------------------

##### Assign URI for aggregation of notification

If the request is to create a <subscription> resource, the group hosting CSE shall validate the request to check whether it contains a notificationForwardingURI attribute or not. If it does not, the group hosting CSE shall forward it to the group memebers. If it does, the group hosting CSE shall assign a new URI to the notificationURI attribute of the <subscription> in the requests before forwarding it to the group members. This new URI shall address the group hosting CSE so that it can receive and aggregate Notifications from those subscriptions.

## ----------------------- End of change 3---------------------

## ----------------------- Start of change 4-----------------------

##### Fanout Request to each member

For each member, the group hosting CSE shall perform the following steps:

a) The primitive parameters ***From*** and ***To*** shall be mapped to the primitive parameters of the corresponding Request to be sent out to each member of the group. The primitive parameter ***From*** shall be directly used. The prefix of primitive parameter ***To*** i.e. <URI of group resource>/fanOutPoint shall be replaced by hierarchical URIs derived from the attribute ***memberIDs*** of the group resource, but excluding the member resources which are sub-groups. For member resources that are sub-groups, the ***To*** parameter of the primitives shall be the resourceID of the *fanOutPoint* virtual resource of the sub-group resources. In addition, any additional relative address that was appended to .../fanOutPoint in the original Request shall be appended to each ***To*** URI. For those member resources contained in a sub-group, the primitive ***To*** of the composed Request shall be <URI of sub-group resource>/fanOutPoint plus any additional appended relative address including in the original Request. The group hosting CSE shall execute "Compose Request primitives". In addition, the group hosting CSE shall generate a unique group request identifier, add it as a primitive parameter to the Request and locally store the group request identifier as per the local policy.

## ----------------------- End of change 4----------------------

## ----------------------- Start of change 5-----------------------

##### Validate the type of resource to be created

If this is a CREATE request and the memberType attribute of the addressed parent group resource is not "MIXED", the group hosting CSE shall check whether the type of resource to be created is a valid and compatible child resource type of the group members when the ***To*** parameter includes …/fanOutPoint without any additional appended relative address. In this case the type of resource specified by the memberType attribute of the parent <group> resource shall be checked to ensure that it is compatible with the type of child resource to be created. If they are not consistent the request shall be rejected with a ***Response Status Code*** indicating "BAD\_REQUEST" error.

## ----------------------- End of change 5----------------------