SCIM MV Filtering

Phil Hunt
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Introduction

- An extension to RFC7644 (SCIM Protocol) to enable filter values returned from complex multi-valued attributes
- Used to further reduce unnecessary data that might otherwise be returned
  - Return a few "members" of a very large group
  - Return rows based on a condition
- Spec was originally submitted 2019. However, SCIM WG was not active (draft-hunt-scim-mv-paging-00)
Extension definition

- Enhances the SCIM "attributes" parameter by appending "[ ]" and specifying:
  - A "valueFilter" from Fig 1 RFC7644 which appends "[ ]" to filter CMV attributes
  - Paging parameters specified by Sec 3.9 RFC7644 to limit returned values of a multi-valued attribute

- Response uses `meta.<attribute>.cnt` to indicate total number of values available

- Specifies feature discovery parameter in `/ServiceProviderConfig`
Example Request Filter

GET /Users/2819c223-7f76-453a-919d-413861904646? \n    attributes=*,emails[type eq work]
Host: example.com
Accept: application/scim+json
Authorization: Bearer h480djs93hd8
HTTP/1.1 200 OK
Content-Type: application/scim+json
Location: https://example.com/v2/Users/2819c223-7f76-453a-919d-413861904646
ETag: W/"f250dd84f0671c3"

{
"schemas": ["urn:ietf:params:scim:schemas:core:2.0:User"],
"id": "2819c223-7f76-453a-919d-413861904646",
"externalId": "bjensen",
"meta": {
"resourceType": "User",
"created": "2011-08-01T18:29:49.793Z",
"lastModified": "2011-08-01T18:29:49.793Z",
"location": "https://example.com/v2/Users/2819c223-7f76-453a-919d-413861904646",
"version": "W/"f250dd84f0671c3",
"emails.cnt": 1
},
"name": {"formatted": "Ms. Barbara J Jensen III", "familyName": "Jensen", "givenName": "Barbara" },
"userName": "bjensen",
"phoneNumbers": [ { "value": "555-555-8377", "type": "work" } ],
"emails": [ { "value": "bjensen@example.com", "type": "work" } ]
}
Example MV Paging Request

GET /v2/Groups?filter=displayName sw 'Group'& \ 
  attributes=*,members[type eq "Group"&count=5&startIndex=1]
Host: example.com
Accept: application/scim+json
Authorization: Bearer h480djs93hd8
Discussion

- Interest?
- Privacy and Security Considerations:
  - Not yet done but,
    - Privacy and Security Considerations basically fall within the main RFC7644 considerations
    - Privacy enhanced by further limiting return of unnecessary data
    - Awaiting tentative agreement on extension mechanism