

20230919

TINYIOT

이번 주 진행 상황

1. 속도측정 마무리(2)
2. Discovery 수정
3. Announcement 공부

시간측정 마무리

였던 것...

Prev

TinyIoT - Raspi							
CIN create							
회차	1 x 120	2 x 60	4 x 30	6 x 20	8 x 15	10 x 12	
1	0.049889481	0.086626281	0.168292952	0.2525808	0.340682667	0.408943568	
2	0.050266953	0.08523071	0.168826811	0.258926811	0.332166958	0.408578098	
3	0.067122813	0.08546714	0.17119753	0.258096274	0.334912219	0.40884228	
4	0.049798528	0.086708937	0.171104133	0.249718	0.340849473	0.409730383	
5	0.050290847	0.085783251	0.176454175	0.254530289	0.330338987	0.408329521	
평균	0.053473724	0.085963264	0.171175516	0.254770435	0.335790061	0.40888477	
Mobius - GCP (sangpaulo)							
CIN create							
회차	1 x 120	2 x 60	4 x 30	6 x 20	8 x 15	10 x 12	
1	0.614131961	0.621924669	0.604498323	0.603662125	0.60789155	0.615002364	
2	0.671111764	0.604657068	0.602924738	0.604055597	0.60737342	0.605588275	
3	0.601085798	0.603016682	0.603419159	0.607944294	0.606341841	0.612753473	
4	0.608832198	0.605215313	0.604901594	0.602561992	0.60672694	0.605375191	
5	0.60221597	0.603051241	0.603279996	0.60536024	0.608676779	0.604502265	
평균	0.619476713	0.607572995	0.603804762	0.60471685	0.607402106	0.608644313	
Mobius - GCP (Iowa)							
CIN create							
회차	1 x 120	2 x 60	4 x 30	6 x 20	8 x 15	10 x 12	
1	0.390194416	0.385890134	0.383732927	0.385542106	0.386401073	0.387185587	
2	0.38465695	0.382805395	0.383408286	0.386640517	0.386662396	0.384600679	
3	0.38795493	0.38297526	0.382226417	0.386012703	0.386571465	0.3856969	
4	0.383034982	0.382120856	0.382839372	0.388975028	0.386364718	0.384322802	
5	0.383079123	0.38464605	0.382479254	0.386246669	0.388427709	0.394926357	
평균	0.38578408	0.383687539	0.382937251	0.386683405	0.386885472	0.387346465	
TinyIoT - Raspi							
Discovery							
회차	리소스 개수	필터 : ty = 4, lim=20					
1	CNT 5 x CIN 300	CNT 5 x CIN 40	CNT 5 x CIN 80	CNT 5 x CIN 120	CNT 5 x CIN 160	CNT 5 x CIN 180	CNT 5 x CIN 200
2	0.166012708	0.044793351	0.061901522	0.088765979	0.11181372	0.099196251	0.127027686
3	0.157780329	0.047154713	0.069126995	0.098859986	0.100941634	0.105998	0.122063009
4	0.182340519	0.049239286	0.066552083	0.09433895	0.100912897	0.106811031	0.115086166
5	0.164415654	0.051772722	0.069199347	0.10166719	0.125625881	0.106327097	0.115174596
평균	0.180730629	0.045727086	0.081192875	0.096642319	0.100728432	0.103117863	0.117196401
	0.170255968	0.047737432	0.069594564	0.096054885	0.108004513	0.104290048	0.119309572
TinyIoT - Raspi							
Discovery							
회차/리소스	리소스 개수	Raspi					
AE	AE 2 x CNT 5 (CIN total 1000)	CIN	AE 2 x CNT 8 (CIN total 1500)	CIN	AE 2 x CNT 14 (CIN total 2000)	CIN	
1	0.023214022	0.020429897	0.211417325	0.022107959	0.01830972	0.22374142	0.026007565
2	0.017176247	0.014150858	0.170383716	0.027413034	0.022088234	0.270075011	0.023580376
3	0.025077144	0.023329385	0.18361787	0.018929211	0.0179715	0.231398034	0.027291139
4	0.016881633	0.013609004	0.176421587	0.026758567	0.021735787	0.241958412	0.023182495
5	0.017838566	0.015910959	0.243971539	0.01992228	0.019906106	0.242374961	0.017901103
평균	0.020037522	0.017486021	0.197162407	0.02302621	0.020002269	0.241909568	0.023592536
Mobius - GCP (Iowa)							
Discovery							
회차/리소스	리소스 개수	GCP - Iowa					
S	AE	CNT	CIN				
1	0.563565032	0.690774266	0.580215883				
2	0.555091317	0.681888715	0.571136785				
3	0.556419873	0.680274741	0.570798826				
4	0.558926988	0.678269045	0.581548643				
5	0.557113393	0.708587631	0.579794391				
평균	0.558223321	0.687958879	0.576698906				



시간측정 마무리

New

TinyIoT - Raspi										TinyIoT - Raspi												
CIN create										Discovery												
회차	1 x 120	2 x 60	4 x 30	6 x 20	8 x 15	10 x 12					회차	1 x 120	2 x 60	4 x 30	6 x 20	8 x 15	10 x 12					
1	0.04889481	0.08662687	0.16829292	0.2325806	0.34066167	0.40894358	1	0.16071708	0.04479351	0.06190122	0.08076599	0.11189132	0.099196251	0.12702168								
2	0.05226953	0.0853071	0.16882879	0.25892681	0.332166958	0.408578098	2	0.157780329	0.047154713	0.069126995	0.09885986	0.100941634	0.105998	0.122063009								
3	0.067122813	0.08546774	0.171719753	0.258096274	0.334912219	0.40884228	3	0.182340519	0.049239286	0.064552083	0.09433895	0.100912897	0.106811031	0.115086166								
4	0.049798528	0.086708937	0.171704133	0.249718	0.34084473	0.409730383	4	0.164415654	0.051772722	0.060719347	0.10166719	0.125625881	0.106327997	0.117174596								
5	0.050290847	0.08578251	0.176454175	0.254530289	0.330338987	0.408329521	5	0.180730629	0.045727086	0.081192075	0.096642319	0.100728432	0.103117863	0.117196401								
평균	0.053473724	0.085963264	0.171775516	0.254770453	0.335790061	0.408848477	평균	0.170255568	0.04773432	0.069594564	0.096054885	0.108004513	0.104290048	0.119395972								
Mobius - GCP (sangpaulo)										TinyIoT - Raspi												
CIN create										Discovery												
회차	1 x 120	2 x 60	4 x 30	6 x 20	8 x 15	10 x 12					회차/회소스	AE	CNT	AE 2 x CNT 5 (CN total 1000)	CN	AE 2 x CNT 8 (CN total 1500)	CN	AE 2 x CNT 12 (CN total 2000)	CN	AE 2 x CNT 12 (CN total 2000)	CN	
1	0.14131961	0.627924669	0.604498323	0.603667125	0.607891155	0.615002364	1	0.023214032	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	
2	0.07111964	0.604637068	0.602924738	0.604055597	0.60737342	0.605588275	2	0.0231778247	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	
3	0.601085798	0.603016682	0.603471519	0.607944294	0.606341841	0.612753473	3	0.025077144	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	
4	0.608821396	0.605215313	0.604901594	0.602561992	0.60672694	0.605375191	4	0.016891633	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	
5	0.60221597	0.603051241	0.603273995	0.60536024	0.606671779	0.604502245	5	0.01783566	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	
평균	0.619476713	0.607572995	0.603804762	0.60471685	0.607402106	0.608644313	평균	0.020037322	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	
Mobius - GCP (Iowa)										Mobius - GCP (Iowa)												
CIN create										Discovery												
회차	1 x 120	2 x 60	4 x 30	6 x 20	8 x 15	10 x 12					회차/회소스	AE	CNT	AE 20 x CNT 5 (CN total 10000)	CN	AE 20 x CNT 8 (CN total 15000)	CN	AE 20 x CNT 12 (CN total 20000)	CN	AE 20 x CNT 12 (CN total 20000)	CN	
1	0.390194416	0.385890134	0.383732927	0.385542106	0.386401073	0.387185587	1	0.563550502	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	
2	0.38465395	0.382805395	0.383408286	0.386440517	0.386662396	0.384609079	2	0.555091917	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	
3	0.38705493	0.382971526	0.382226417	0.386012703	0.386571465	0.38616949	3	0.5536479873	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	
4	0.383034082	0.382120856	0.382839372	0.388975028	0.386364718	0.384328802	4	0.5589026988	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	
5	0.383079123	0.38404025	0.382479254	0.386246689	0.388427709	0.394926357	5	0.5577113353	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	
평균	0.38679408	0.385685539	0.382937251	0.386663405	0.386805472	0.387346465	평균	0.552223321	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	
Mobius - GCP (Iowa) (e2-medium 4c, 32G)										Mobius - GCP (Iowa) (e2-medium 4c, 32G)												
CIN create										Discovery												
회차	1 x 120	2 x 60	4 x 30	6 x 20	8 x 15	10 x 12					회차/회소스	AE	CNT	AE 20 x CNT 5 (CN total 10000)	CN	AE 20 x CNT 8 (CN total 15000)	CN	AE 20 x CNT 12 (CN total 20000)	CN	AE 20 x CNT 12 (CN total 20000)	CN	
1	0.367103847	0.364242721	0.372970716	0.374272009	0.36203081	0.362548176	1	0.434040642	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	
2	0.36436738	0.403165611	0.379088531	0.374047773	0.364373086	0.362688802	2	0.426137089	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	
3	0.367554885	0.367887755	0.365023792	0.364455928	0.367499044	0.362032084	3	0.424705847	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	
4	0.373154826	0.377615618	0.372573627	0.36386134	0.363908897	0.373228729	4	0.427279592	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	
5	0.373609996	0.375177375	0.37269921	0.362422524	0.361904987	0.373746936	5	0.451763521	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	
평균	0.369192107	0.3776817816	0.372185198	0.367446914	0.363773385	0.366849065	평균	0.451763521	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	AE	CNT	
Mobius - GCP (sangpaulo) (e2-medium 4c, 32G)										Mobius - GCP (Iowa) (e2-medium 4c, 32G)												
CIN create										Discovery												
회차	1 x 120	2 x 60	4 x 30	6 x 20	8 x 15	10 x 12					회차/회소스	AE	CNT	AE 20 x CNT 5 (CN total 10000)	CN	AE 20 x CNT 8 (CN total 15000)	CN	AE 20 x CNT 12 (CN total 20000)	CN	AE 20 x CNT 12 (CN total 20000)	CN	
1							cloud	50	AE	ty=2	BL	raupi	2	AE								
2																						
3																						
4																						
5																						
평균							base	ty, ca/ob														
							ent	ty, wts, bl														
							de	de, ub														

Note: Each iteration of discovery test indicates average of 30 times of request



Discovery 수정

기존엔 pty, palb나, chty, clbl을 각각 SQL을 실행해서 SELECT함. 그 후 List를 합침
이를 Nested Query를 통해서 처리하도록 수정

Ex1) sza: 5, palb:test 경우의 SQL Query

```
SELECT uri, acpi FROM general WHERE uri LIKE 'TinyIoT/%' AND ri IN (SELECT ri FROM cin WHERE cs >= 5) AND pi IN (SELECT ri from general WHERE lbl LIKE '%"test"%')
```

Ex2) clbl : test 경우의 SQL Query

```
SELECT uri, acpi FROM general WHERE uri LIKE 'TinyIoT/%' AND ri IN (SELECT pi from general WHERE lbl LIKE '%"test"%')
```

Discovery 수정

Limit(lim), Offset(ofst) 의 경우 SQL에서 지원하는 문법임.

하지만 권한 등은 기존엔 SQL상에서 확인하지 못했기 때문에 필터를 통과하는 모든 Resource를 다 select한 뒤, 각각의 acpi를 직접 확인하는 방법을 사용함.

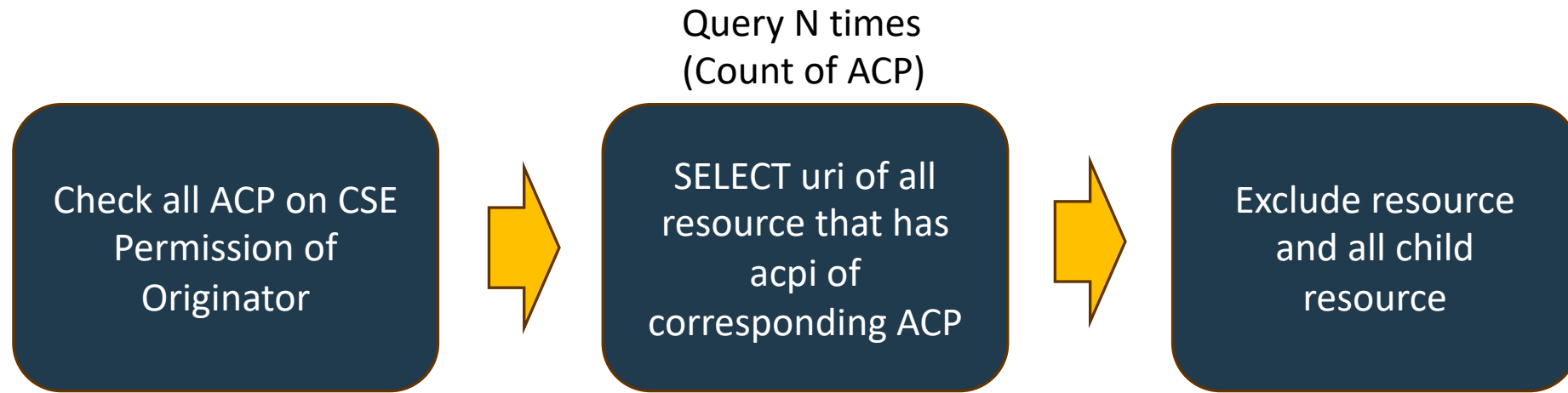
이를 SQL문법을 사용하기 위해선 Filter을 걸은 SQL한번에 ACP검증까지 끝내야함.

Discovery 수정

Solution.

- 기존엔 불러온 리소스에 각각 acop를 확인했다면, 반대로 해당 Originator이 권한이 없는 ACP리소스의 uri를 먼저 조회한 뒤에 조건문을 건다.

Discovery 수정



Discovery 수정

EX) Originator 0 | COrigin. 이를 통해 cnt에 63ACOP (모든권한)을 준 상태
ops:8(Delete) ty : 2(AE)

```
SELECT uri FROM general WHERE uri LIKE 'TinyIoT/%' AND ( ty = 2) ;
```

Discovery 권한이 있어서 아무것도 추가 x

Ops attr 권한이 있어서 아무것도 추가x

```
ty : 1,  
"pv": {  
  "acr": [  
    {  
      "acor": [  
        "COorigin"  
      ],  
      "acop": 63  
    },  
    {  
      "acor": [  
        "COorigin2"  
      ],  
      "acco": {  
        "acip": {  
          "ipv4": [  
            "192.168.1.235"  
          ]  
        }  
      },  
      "acop": 15  
    },  
    {  
      "acor": [  
        "all"  
      ],  
      "acop": 34  
    }  
  ]  
}
```

Discovery 수정

EX) Originator⁰ | SOrigin. cnt에 34 ACOP (읽기/discovery 권한)를 준 상태

ops:8(Delete), sts:100, stb:0, pty:2, ty:3

SELECT uri FROM general WHERE uri LIKE 'TinyIoT/%'

AND (ty = 3)

AND (uri NOT LIKE 'TinyIoT/ae_test/cnt_test%')

AND ri IN (SELECT ri FROM cnt WHERE st < 100)

AND ri IN (SELECT ri FROM cnt WHERE st >= 0)

AND pi IN (SELECT ri from general WHERE (ty = 2))

Ops attr에 의해 갈색 구문이 추가됨

```
ty : 3,
"pv": {
  "acr": [
    {
      "acor": [
        "COrigin"
      ],
      "acop": 63
    },
    {
      "acor": [
        "COrigin2"
      ],
      "acco": {
        "acip": {
          "ipv4": [
            "192.168.1.235"
          ]
        }
      },
      "acop": 15
    },
    {
      "acor": [
        "all"
      ],
      "acop": 34
    }
  ]
}
```

Discovery 수정

Finally.

LIMIT, OFFSET 사용

```
SELECT uri FROM general WHERE uri LIKE 'TinyIoT/%' AND ( ty = 3) AND (uri NOT LIKE 'TinyIoT/ae_test/cnt_test%' ) AND ri IN (SELECT ri FROM cnt WHERE st < 100) AND ri IN (SELECT ri FROM cnt WHERE st >= 0) AND pi IN (SELECT ri from general WHERE ( ty = 2) ) LIMIT 11 OFFSET 0;
```

다만, LIMIT을 딱 attribute만큼 걸면 추가 레코드가 남아있는지 판단이 불가하므로 Limit attribute+1만큼 조회함.

마지막에 Limit보다 uril배열의 아이템 수 가 더 많으면
마지막 아이템을 삭제하고 추가 레코드가
남아있다는 뜻의 Header을 SET.

```
if(urilSize > lim){  
    logger("02M", LOG_LEVEL_DEBUG, "limit exceeded");  
    cJSON_DeleteItemFromArray(uril, urilSize);  
    o2pt->cnst = CS_PARTIAL_CONTENT;  
    o2pt->cnot = ofst + lim;  
}
```