# 20230919

TINYIOT

## 이번 주 진행 상황

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# 시간측정 마무리

#### Prev

	TinyloT - Ras	spi					TinyloT	Γ - Raspi								
	CIN create						Discovery	리소스 개수	필터 : ty = 4, lim=20							
차	1 x 120	2 x 60	4 x 30	6 x 20	8 x 15	10 x 12	회차	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		
1	0.049889481	0.086626281	0.168292952	0.2525808	0.340682667	0.408943568	1	0.166012708	0.044793351	0.061901522	0.088765979	0.11181372	0.099196251	0.127027686		
2	0.050266953	0.08523071	0.168828793	0.258926811	0.332166958	0.408578098	2	0.157780329	0.047154713	0.069126995	0.098859986	0.100941634	0.105998	0.122063009		
3	0.067122813	0.08546714	0.17119753	0.258096274	0.334912219	0.40884228	3	0.182340519	0.049239286	0.066552083	0.09433895	0.100912897	0.106811031	0.115086166		
4	0.049798528	0.086708937	0.171104133	0.249718	0.340849473	0.409730383	4	0.164415654	0.051772722	0.069199347	0.10166719	0.125625881	0.106327097	0.115174596		
5	0.050290847	0.085783251	0.176454175	0.254530289	0.330338987	0.408329521	5	0.180730629	0.045727086	0.081192875	0.096642319	0.100728432	0.103117863	0.117196401		
1균	0.053473724	0.085963264	0.171175516	0.254770435	0.335790061	0.40888477	평균	0.170255968	0.047737432	0.069594564	0.096054885	0.108004513	0.104290048	0.119309572		
	Mobius - GC	: P (sangpaul	o)				Tinylo	Г - Raspi								
	CIN create						Discovery	리소스 개수	Raspi							
차	1 x 120	2 x 60	4 x 30	6 x 20	8 x 15	10 x 12		AE 2 x CNT 5 (CIN	total 1000)		AE 2 x CNT 8 (CIN total	1 1500)		AE 2 x CNT 14 (CII	V total 2000)	
1	0.614131961	0.621924669	0.604498323	0.603662125			회차/리소스			CIN	AE	CNT	CIN	AE	CNT	CIN
2	0.67111764	0.604657068	0.602924738	0.604055597	0.60737342	0.605588275	1	0.023214022	0.020429897	0.211417325	0.022107959	0.01830972	0.22374142	0.026007565	0.024221762	2 0.2521204
3	0.601085798	0.603016682	0.603419159	0.607944294	0.606341841	0.612753473	2	0.017176247	0.014150858	0.170383716	0.027413034	0.022088234	0.270075011	0.023580376	0.020316688	0.2245947
4	0.608832198	0.605215313	0.604901594	0.602561992	0.60672694	0.605375191	3	0.025077144	0.023329385	0.18361787	0.018929211	0.0179715	0.231398034	0.027291139	0.030425143	0.2839054
5	0.60221597	0.603051241	0.603279996	0.60536024	0.608676779	0.604502265	4	0.016881633	0.013609004	0.176421587	0.026758567	0.021735787	0.241958412	0.023182495	0.021233424	4 0.2882754
1균	0.619476713	0.607572995	0.603804762	0.60471685	0.607402106	0.608644313	5	0.017838566	0.015910959	0.243971539	0.01992228	0.019906106	0.242374961	0.017901103	0.017190369	0.247968
							평균	0.020037522	0.017486021	0.197162407	0.02302621	0.020002269	0.241909568	0.023592536	0.022677477	7 0.2593728
	Mobius - GC	P (lowa)					Mobius	s - GCP (lo	wa)							
	CIN create						Discovery	리소스 개수	GCP - Iowa							
차	1 x 120	2 x 60	4 x 30	6 x 20	8 x 15	10 x 12		S	1							
1	0.390194416	0.385890134	0.383732927	0.385542106	0.386401073	0.387185587	회차/리소스	AE	CNT	CIN						
2	0.38465695	0.382805395	0.383408286	0.386640517	0.386662396	0.384600679	1	0.563565032	0.690774266	0.580215883						
3	0.38795493	0.38297526	0.382226417	0.386012703	0.386571465	0.3856969	2	0.555091317	0.681888715	0.571136785						
4	0.383034982	0.382120856	0.382839372	0.388975028	0.386364718	0.384322802	3	0.556419873	0.680274741	0.570798826	0.3					
5	0.383079123	0.38464605	0.382479254	0.386246669	0.388427709	0.394926357	4	0.558926988	0.678269045	0.581548643						
균	0.38578408	0.383687539	0.382937251	0.386683405	0.386885472	0.387346465	5	0.557113393	0.708587631	0.579794391	0.25					
							평균	0.558223321	0.687958879	0.576698906						

## 시간측정 마무리

#### New

TinyloT - R	aspi					Tinylo	oT - Raspi																							
IN create						Discover	ry 리소스 개수	필터: ty = 4, lm=20																						
x 120	2 x 60	4 x 30	6 x 20	3 x 15	10 x 12	회차	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 C	NT 5 x CIN 200																	
0.049889481	0.086626281	0.16829295	2 0.2525808	0.340682667	0.408943568		1 0.16601270	0.0447933		0.088765979	0.11181372	0.099196251	0.127027686																	
0.050266953	0.08523071	0.16882879	3 0.258926811	0.332166958	0.408578098		2 0.15778032	9 0.0471547	13 0.069126995	0.098859986	0.100941634	0.105998	0.122063009																	
0.067122813	0.08546714	0.1711975	3 0.258096274	0.334912219	0.40884228		3 0.18234051	9 0.0492392	0.066552083	0.09433899	0.100912897	0.106811031	0.115086166		Note. Each	eration of discov	ry test indicates averag	ge of 30 times	of request											
0.049798528	0.086708937	0.17110413	3 0.249718	0.340849473	0.409730383		4 0.16441565	4 0.0517727	22 0.069199347	0.10166719	0.125625881	0.106327097	0.115174596																	
0.050290847	0.085783251	0.17645417	5 0.254530289	0.330338987	0.408329521		5 0.18073062	9 0.0457270	36 0.081192879	0.096642319	0.100728432	0.103117863	0.117196401																	
0.053473724	0.085963264	0.17117551	6 0.254770435	0.335790061	0.40888477	평균	0.17025596	8 0.0477374	0.069594564	0.096054885	0.108004513	0.104290048	0.119309572																	
Mobius - G	CP (sangpau	ulo)				Tinylo	oT - Raspi								Tinylo	T - Rasp								Tinylo	T - Rasp	i				
CIN create						Discover	ry 리소스 개수	Raspi								리소스 개수								Discovery	리소스 개수					
1 x 120	2 x 60	4 x 30	6 x 20	3 x 15	10 x 12		AE 2 x CNT 5 (CI			AE 2 x CNT 8 (CIN to	al 1500)	,	E 2 x CNT 12 (CIN	total 2000)		AE 2 x CNT 5 (0			AE 2 x CNT 8 (CIN total	500)	AE 2 x CNT 12 (ON	total 2000)			AE 2 x CNT 50	(CIN total 1000)	AE 2 x CNT 75 (CIN	total 1500)	AE 2 x CNT 100 (CIN	total 2000)
0.614131961				0.60789155		회차/리소스		CNT	CIN	AE	CNT	ON A			ON 회차/리소스		CNT CN		AE CNT	ON		CNT	ON	회차/리소스		CIN	CNT	CIN	CNT C	
0.67111764				0.60737342			1 0.02321402	2 0.0204298	97 0.211417325	0.022107959	0.01830972	0.22374142	0.026007565	0.024221762		0.001551374	0.001060354	0.077187427	0.002055144 0.002	84999 0.121356	16 0.007623609	0.004195356	0.148604465		0.01527	319 0.059689252	0.023458513	0.116663035	0.035218231	0.151285323
0.601085798	0.603016682			0.606341841	0.612753473		2 0.01717624			0.027413034	0.022088234	0.270075011	0.023580376	0.020316688	0.224594744	0.00262808		0.075245078	0.005816388 0.004	34981 0.115373	08 0.004964232	0.003013945	0.128436486		0.019415	935 0.064766725		0.119545388	0.024252725	0.151820612
0.608832198				0.60672694			3 0.02507714					0.231398034	0.027291139	0.030425143	0.283905411	0.003826253	0.001321403	0.077558629	0.008281795 0.008	96125 0.123043	87 0.01518139	0.011550434	0.1899671		0.015344			0.120063559	0.027379394	0.146134154
0.60221597				0.608676779			4 0.01688163					0.241958412	0.023182495	0.021233424	0.288275488	0.004463402	0.001675439	0.068441375	0.002695704 0.001	34117 0.105909	43 0.007508063	0.003460479	0.156368399		0.01482			0.108114163	0.035689282	0.156535228
0.619476713				0.607402106			5 0.01783856					0.242374961	0.017901103	0.017190369	0.24796807	0.002910916	0.001041683	0.069340531	0.007913454 0.009	59027 0.129347		0.014348173	0.172363822		0.014767			0.131529013	0.029865567	0.152759051
	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					962	0.02003752					0.241909568	0.023592536	0.022677477	0.259372832 明計			0.073554608	0.005352497 0.00	16185 0.119006		0.007313677	0.159148054	82	0.015924			0.119183032	0.03048104	0.151706875
Mobius - G	CP (lowa)						ius - GCP (										(lowa) (e2-							,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						
CIN create						Discover	ry 리소스 개수	GCP - lowa							Discover	리소스 개수	Raspi													
1 x 120	2 x 60	4 x 30	6 x 20	3 x 15	10 x 12	Discorci	,								Discorci	AE 20 x CNT 5			AE 20 x CNT 8 (CIN tota	15000)	AE 20 x CNT 12 (CI	N total 20000			_					
0.390194416	0.385890134			0.386401073		회차/리소스	AF.	CNT	CIN						회차/리소스		CNT CN		AF CNT	ON		CNT	ON							
0.38465695				0.386662396		ag-17-elactio	1 0.56356503	LN 0.6907742							at-Applica	0.47707479		0.497105249	0.503372327 0.573			0.655103374	0.563544313		_					
0.38795493				0.386571465	0.3856969		2 0.55509131									0.471876891		0.526401909				0.64594264	0.564037498							
0.383034982				0.386364718			3 0.55641987									0.469449631		0.489104851	0.503039058 0.574		82 0.548455914	0.657865071	0.567181746		_					
0.383079123	0.38464605			0.388427709			4 0.55892698									0.470769032		0.491872287	0.50298934 0.576			0.64923052	0.564101728		_					
0.38578408				0.386885472			5 0.55711335									0.46836768			0.503789004 0.574	59655 0.525971	82 0.541969005	0.652419535			_					
			0.300003403			명군	0.55822332								82				0.502840387 0.574			0.652112228			_					
Mobius - G	CP (lowa) (e	e2-medium	4c. 32G)			0.0	433066336	0.0013300									(lowa) (e2-i			53401										
CIN create	. () (		10, 520,													리소스 개수			, 526,											
1 x 120	2 x 60	4 x 30	6 x 20	3 x 15	10 x 12											AE 20 x CNT 5			AE 20 x CNT 8 (CIN tota	15000)	AE 20 x CNT 12 (CI	N total 20000)								
0.367103847		0.37297011		0.36203081	0.362548176										회차/리소스		CNT CN		AE CNT	ON		CNT	ON							
0.36436738	0.403165611	0.37908853	1 0.370497773	0.364373086	0.362688802											0.434040642	0.484593407	0.457483379	0.461398053 0.530	54883 0.484307	07 0.530143388	0.661088864	0.583550986							
0.367754485	0.367887755	0.36502379		0.367499044												0.428337089		0.454348071	0.466871619 0.537	51909 0.490803	25 0.51044577	0.621869214	0.533340422							
0.373124826	0.373615619			0.363068897	0.373228729											0.424705847	0.470007753	0.447576539	0.479911725 0.538	31691 0.495504	69 0.512094386	0.609494209	0.532926122							
0.373609996	0.375177375	0.37126992	1 0.362422524	0.361904987	0.373746936											0.427279592	0.470001753	0.448612674	0.462684759 0.538	87575 0.512691	35 0.502280537	0.60538168	0.519461942							
0.369192107				0.363775365	0.366849065											0.451765521		0.460105634	0.461660051 0.533	97628 0.483932	52 0.500213106	0.603309107	0.522558117							
															평균	0.433225738	0.475315528	0.453625259	0.466505241 0.535	44737 0.493448	17 0.511035438	0.620228615	0.538367518							
Mahina C	CP (sangpau	ula) (a) ma	di 4a 22	C)											e2small科이	91.88096516	01.06865656	00.00334036	92.77402003 93.14	84500 03.06711	68 93.95241578	95.11071685	95.42176013							
	cr (sangpau	uioj (ez-mec	Jium 4C, 32	u)				-	-						ezsmalikyvi	91.08096516	91.0005555	20.00334926	92.17402003 93.14	93.96/11	95,95241578	93.110/1663	93M21/6013							
CIN create																														
1 x 120	2 x 60	4 x 30	6 x 20	3 x 15	10 x 12																									
					0.666834518	doud			raspi																					
					0.635400395		50 AE	ty=2 lbl,		AE																				
					0.635530456	AE x 10		sts cbs	AE x S	CNT																				
					0.636834943	CNT x 100	CIN		CNT x100	CIN																				
					0.637228229																									
						base	ty, cra/crb																							
						ont	sts/stb, lbl																							
						cin	sza, szb																							

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 'TinyloT/%' AND ri IN (SELECT ri FROM cin WHERE cs >= 5) AND pi IN (SELECT ri from general WHERE Ibl LIKE '%"test"%')

Ex2 ) clbl : test 경우의 SQL Query

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

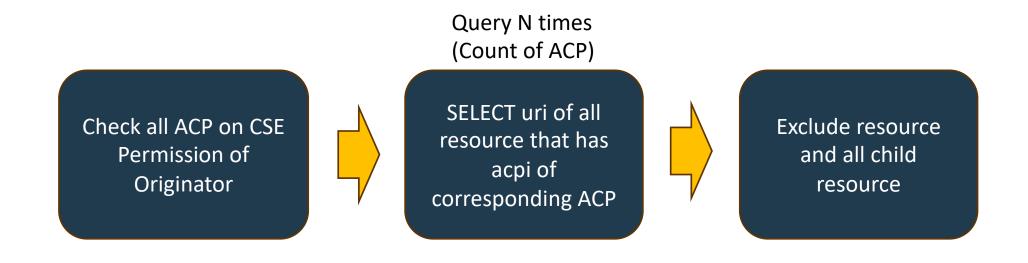
Limit(lim), Offset(ofst) 의 경우 SQL에서 지원하는 문법임.

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.

#### Solution.

• 기존엔 불러온 리소스에 각각 acop를 확인했다면, 반대로 해당 Originator이 권한이 없는 ACP리소 스의 uri를 먼저 조회한 뒤에 조건문을 건다.



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

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

Discovery 권한이 있어서 아무것도 추가 X Ops attr 권한이 있어서 아무것도 추가X

```
"acr": [
        "acor": [
            "COrigin"
        "acop": 63
        "acor": [
            "COrigin2"
        "acco": {
            "acip": {
                "ipv4": [
                     "192.168.1.235"
        "acop": 15
        "acor": [
            "all"
        "acop": 34
```

EX) Originator이 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 'TinyloT/%'

AND (ty = 3)

AND (uri NOT LIKE 'TinyloT/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

```
"acr": [
         "acor": [
         "acop": 63
             "COrigin2"
         "acco": {
             "acip": {
         "acop": 15
         "acor": [
         "acop": 34
```

#### Finally.

LIMIT, OFFSET 사용

SELSELECT uri FROM general WHERE uri LIKE 'TinyloT/%' AND ( ty = 3) AND (uri NOT LIKE 'TinyloT/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;
}
```