

quota problem

summary

- it was already reported as problem with deleting
- but my recent findings point rather to problem with FQUOTAS
- below I present the problem: I will check the number of files and their size in FQUOTAS and LI225L, before, after running a job, and after the file deletion
- focus on the relative changes between the phases, and not on the initial discrepancy which will become clear at the end of this presentation

nbfiles + size before

- So normal user can count the files in his directory:

```
karabowi@lxi054::~~/empty$ alien login --exec "ls " | wc -l
38 // all directories
karabowi@lxi054::~~/empty$ alien login --exec "ls */" | wc -l
54 // 43 directories + 11 files
karabowi@lxi054::~~/empty$ alien login --exec "ls */*/" | wc -l
491 // in fact 11 files less.... = 480 directories
karabowi@lxi054::~~/empty$ alien login --exec "ls */**/" | wc -l
3670 // files
karabowi@lxi054::~~/empty$ alien login --exec "ls */***/" | sort | uniq -c
  459 out.archive
  458 params.root
  459 points.root
  459 resources
  459 root.archive
  459 stderr
  459 stdout
  458 tracks.root
Altogether: 38+54+480+3670 = 4242 + 1 main directory (3670+11=3681 files and 480+38+43=561 folders)
```

- and check the size:

```
[lxpandagrid03.gsi.de:3307] /panda/user/k/karabowi/ > du
Mar 19 15:46:28 info Checking the disk space usage of /panda/user/k/karabowi/
Mar 19 15:46:28 info /panda/user/k/karabowi/ uses 6546091920 bytes
```

- Or use the fquota:

```
[lxpandagrid03.gsi.de:3307] /panda/user/k/karabowi/ > fquota list karabowi
Mar 19 15:47:00 info
```

	user	nbFiles	totalSize(M)
[0001.]	karabowi	9323/10000	34825.9858/476837.1582

- Again: forget the discrepancies here, it will become clear later

nbfiles + size before

- all these information can also be found in the mysql database:

```
mysql> use alien_system;
mysql> select * from L1225L;
.....
| 187974 | karabowi | 0 | 2012-03-19 10:07:06 | 11E171A2 | 1876646 | NULL | output/run63/8/stdout
| 0 | NULL | 49323 | 187659 | karabowi | f | 'Uq??< %?I☒ | dceffc0bc5a13cfc0b165fe7b98db414 | 755
|
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+
4243 rows in set (2,72 sec)
```

```
mysql> select * from L1225L_QUOTA;
```

```
+-----+-----+-----+
| user      | nbFiles | totalSize |
+-----+-----+-----+
| karabowi  | 3681    | 6546091920 |
+-----+-----+-----+
1 row in set (0,00 sec)
```

```
mysql> select SUM(size) from L1225L;
```

```
+-----+
| SUM(size) |
+-----+
| 6546091920 |
+-----+
1 row in set (0,00 sec)
```

```
mysql> select * from FQUOTAS where user like 'karabowi';
```

```
+-----+-----+-----+-----+-----+-----+-----+
| user      | maxNbFiles | nbFiles | tmpIncreasedTotalSize | maxTotalSize | tmpIncreasedNbFiles | totalSize |
+-----+-----+-----+-----+-----+-----+-----+
| karabowi  | 10000      | 9323    | 0 | 5000000000000 | 0 | 36517692921 |
+-----+-----+-----+-----+-----+-----+-----+
1 row in set (0,00 sec)
```

- Lets put it in a table:

	before	change (after submit-before)	after submit	change (after delete- after before)	after delete	change (after delete- before)
ls (all)	4243					
ls (files)	3681					
du	6,546,091,920					
select * from LI225L;	4243 rows					
select nbFiles from LI225L_QUOTA;	3681					
select totalSize from LI225L_QUOTA;	6,546,091,920					
select nbFiles from FQUOTAS where user like 'karabowi';	9323					
select totalSize from FQUOTAS where user like 'karabowi';	36,517,692,921					

submit

- now let me submit a job

```
[lxpandagrid03.gsi.de:3307] /panda/user/k/karabowi/ > submit bin/all_BARREL_job_100_nov11.jdl 64
Mar 19 15:47:46 info In checkFileQuota for user: karabowi, request file size:0 request file count:1 --
(nF = 9323/10000 and nS = 36517692921/500000000000)
Mar 19 15:47:46 info In checkFileQuota karabowi: Allowed
Mar 19 15:47:46 info WARNING!!!! Your file quotas are 90% full!!!
Mar 19 15:47:46 info Submitting job '/panda/user/k/karabowi//bin/all_BARREL_job_100.sh
#alien_counter#'...
Mar 19 15:47:46 info There is no time to live (TTL) defined in the jdl... putting the default '6 hours'
Mar 19 15:47:46 info There is no price defined for this job in the jdl. Putting the default '1.0'
Mar 19 15:47:46 info *** calling PackMan with arguments list -silent -all
Mar 19 15:47:46 info Calling directly getListPackages (list -silent -all)
Mar 19 15:47:46 info File '/d/panda01/protopop/grid/packages/alien_list_packages_all' read
Mar 19 15:47:46 info The file is older than 7200 seconds... use at your own risk
Mar 19 15:47:46 info Asking the PackMan for the packages that it knows
Mar 19 15:47:46 info Job is going to be splitted for production, running from 1 to 60
Mar 19 15:47:46 info Input Box: {reco_BARREL_100.C sim_BARREL_100.C}
Mar 19 15:47:46 warning ATTENTION. You just submitted a JDL containing the tag 'OutputArchive'. The
OutputFile and OutputArchive
tags will be dropped in future versions of AliEn. For the moment the old tags work as usual, but
please update your JDLs in the near future to utilize the 'Output' tag:
```

The syntax of the actual entries is still the same, but now you can just mixup files and archives, as e.g.:

```
Output = { "fileA,fileB,*.abc" , "myArchive:fileC,fileD,*.xyz" } ;
Thanks a lot!
```

```
Mar 19 15:47:46 info OK, all right!
Mar 19 15:47:46 info Command submitted (job 1878701)!!
Mar 19 15:47:46 info Job ID is 1878701 - 0
```

- The job is split into 60, should produce one main directory output/run64 and 60 subdirectories: output/run64/\$splitNumber, with 8 files in each directory. Altogether $(60+1=61 \text{ directories}) + (60*8 = 480 \text{ files}) = 541 \text{ entries} + 2 \text{ extra folders} = 543$:

```
[lxpandagrid03.gsi.de:3307] /panda/user/k/karabowi/ > ls alien-job-1878701/
job-log
[lxpandagrid03.gsi.de:3307] /panda/user/k/karabowi/ > ls alien-job-1878701/job-log/
[lxpandagrid03.gsi.de:3307] /panda/user/k/karabowi/ >
```

nbfiles + size after submit

- Can check number of files and number of all entries as well as the size in the database

```
mysql> select * from L1225L;
| 188517 | karabowi | 0 | 2012-03-19 15:56:34 | 11E171D3 | 1878756 | NULL | output/run64/55/
stdout | 0 | NULL | 50538 | 188402 | karabowi | f | ?;Lq??? %?I? |
cf4f56fbbc8a07a84692d2a40936f9e2 | 755 |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
4786 rows in set (0,02 sec)
```

```
mysql> select * from L1225L_QUOTA;
+-----+-----+-----+
| user | nbFiles | totalSize |
+-----+-----+-----+
| karabowi | 4161 | 7393275766 |
+-----+-----+-----+
1 row in set (0,00 sec)
```

- I have also checked the size of created files:

```
[lxpandagrid03.gsi.de:3307] /panda/user/k/karabowi/output > du run64
Mar 19 16:02:17 info Checking the disk space usage of /panda/user/k/karabowi/output/run64
Mar 19 16:02:17 info /panda/user/k/karabowi/output/run64 uses 847183846 bytes
```

- Can also check fquota:

```
[lxpandagrid03.gsi.de:3307] /panda/user/k/karabowi/ > fquota list karabowi
Mar 19 15:57:15 info
```

	user	nbFiles	totalSize(M)
[0001.]	karabowi	9925/10000	36036.7295/476837.1582

```
mysql> select * from FQUOTAS where user like 'karabowi';
+-----+-----+-----+-----+-----+-----+-----+
| user | maxNbFiles | nbFiles | tmpIncreasedTotalSize | maxTotalSize | tmpIncreasedNbFiles | totalSize |
+-----+-----+-----+-----+-----+-----+-----+
| karabowi | 10000 | 9925 | 0 | 5000000000000 | 0 | 37787249719 |
+-----+-----+-----+-----+-----+-----+-----+
1 row in set (0,00 sec)
```

- Put it in the table and calculate difference:

	before	change (after submit-before)	after submit	change (after delete- after before)	after delete	change (after delete- before)
ls (all)	4243	+543	4786			
ls (files)	3681	+480	4161			
du	6,546,091,920	+847,183,846	7,393,275,766			
select * from LI225L;	4243 rows	+543	4786 rows			
select nbFiles from LI225L_QUOTA;	3681	+480	4161			
select totalSize from LI225L_QUOTA;	6,546,091,920	+847,183,846	7,393,275,766			
select nbFiles from FQUOTAS where user like 'karabowi';	9323	+602	9925			
select totalSize from FQUOTAS where user like 'karabowi';	36,517,692,921	+1,269,556,798	37,787,249,719			

WHYs?

- WHY are the changes in LI225L and FQUOTAS not the SAME?
- WHY are there $59=60-1$ (WHY?) nbFiles MORE added in the FQUOTAS than in LI225L???
- WHY are the $1,269,556,798 - 847,183,846 = 422,372,952$ bytes MORE in FQUOTAS than in LI225L? That is 420 MB!
- I can see this kind of behavior since I started playing with GRID... If my jobs produce more output, the discrepancy is also bigger

nbfiles + size after delete

- Now I will try to delete all produced files to get back the lost space...

```
[lxpandagrid03.gsi.de:3307] /panda/user/k/karabowi/output/ > rmdir run64
Mar 19 17:01:15  info Deleting all the entries from  table 1225 and lfn=/panda/user/k/karabowi/
Mar 19 17:01:15  info Updating Quotas for user=karabowi with (count=-480 and Size=-847183846)
[lxpandagrid03.gsi.de:3307] /panda/user/k/karabowi/ > rmdir alien-job-1878701/
Mar 20 12:50:08  info Deleting all the entries from  table 1225 and lfn=/panda/user/k/karabowi/
Mar 20 12:50:08  info Updating Quotas for user=karabowi with (count=0 and Size=0)
[lxpandagrid03.gsi.de:3307] /panda/user/k/karabowi/output/ > fquota list karabowi
Mar 19 17:02:13  info
```

	user	nbFiles	totalSize(M)
[0001.]	karabowi	9457/10000	35228.9695/476837.1582

```
lxpandagrid03.gsi.de:3307] /panda/user/k/karabowi/ > du
Mar 20 12:51:49  info Checking the disk space usage of /panda/user/k/karabowi/
Mar 20 12:51:49  info /panda/user/k/karabowi/ uses 6546091920 bytes
```

nbfiles + size after delete

- check in the database

```
mysql> select * from FQUOTAS where user like 'karabowi';
```

user	maxNbFiles	nbFiles	tmpIncreasedTotalSize	maxTotalSize	tmpIncreasedNbFiles	totalSize
karabowi	10000	9457	0	500000000000	0	36940251882

```
1 row in set (0,00 sec)
```

```
mysql> select * from L1225L;
```

```
.....
| 187974 | karabowi | 0 | 2012-03-19 10:07:06 | 11E171A2 | 1876646 | NULL | output/run63/8/stdout
| 0 | NULL | 49323 | 187659 | karabowi | f | 'Uq??< %?I' | dceffc0bc5a13cfc0b165fe7b98db414 |
755 |
```

```
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
```

```
4243 rows in set (0,01 sec)
```

```
mysql> select * from L1225L_QUOTA;
```

user	nbFiles	totalSize
karabowi	3681	6546091920

```
1 row in set (0,00 sec)
```

- put in the table and calculate the differences

	before	change (after submit-before)	after submit	change (after delete- after before)	after delete	change (after delete- before)
ls (all)	4243	+543	4786	-543	4243	0
ls (files)	3681	+480	4161	-480	3681	0
du	6,546,091,920	+847,183,846	7,393,275,766	-847,183,846	6,546,091,920	0
select * from LI225L;	4243 rows	+543	4786 rows	-543	4243 rows	0
select nbFiles from LI225L_QUOTA;	3681	+480	4161	-480	3681	0
select totalSize from LI225L_QUOTA;	6,546,091,920	+847,183,846	7,393,275,766	-847,183,846	6,546,091,920	0
select nbFiles from FQUOTAS where user like 'karabowi';	9323	+602	9925	-468	9457	+134
select totalSize from FQUOTAS where user like 'karabowi';	36,517,692,921	+1,269,556,798	37,787,249,719	-846,997,837	36,940,251,882	+422,558,961

fquotas... again

```
mysql> select now();select * from FQUOTAS where user like 'karabowi';
```

+-----+									
+-----+									
2012-03-21 11:59:40 karabowi 10000 6955 0 500000000000									
0 32101515714									
+-----+									
+-----+									
2012-03-21 12:02:36 karabowi 10000 6956 0 500000000000									
0 32101517256									
+-----+									
+-----+									
2012-03-21 12:03:49 karabowi 10000 6955 0 500000000000									
0 32094258990									
+-----+									
+-----+									
2012-03-21 12:04:46 karabowi 10000 6955 0 500000000000									
0 32094258990									
+-----+									
+-----+									
2012-03-21 12:11:07 karabowi 10000 6957 0 500000000000									
0 32099004532									
+-----+									
+-----+									
2012-03-21 12:49:45 karabowi 10000 6964 0 500000000000									
0 32097105278									
+-----+									
+-----+									
2012-03-21 13:49:51 karabowi 10000 6975 0 500000000000									
0 32094876673									
+-----+									
+-----+									
2012-03-21 13:51:58 karabowi 10000 6976 0 500000000000									
0 32097389082									
+-----+									
+-----+									

?