JobSub - Feature #24329

jobsub_lite

04/20/2020 08:05 PM - Dennis Box

Status:	New		**Start date:**	04/20/2020
Priority:	Normal		**Due date:**	
Assignee:	Marc Mengel		**% Done:**	0%
Category:			**Estimated time:**	0.00 hour
Target version:			**Spent time:**	0.00 hour
Stakeholders:				
Description				

History

#1 - 04/20/2020 08:08 PM - Dennis Box

- Assignee set to Marc Mengel

#2 - 04/23/2020 10:32 AM - Marc Mengel

The prototype on branch 24329 now generates a submit file and wrapper script that looks like it would work for simple submissions, and prints the condor_submit line it would use.

I need to go back through the templates for various options, especially the various dag-based options and especially the dagnabbit bits, and also the cvmfs tarball upload service calls.

Questions at the moment:

- I have a "get_schedd()" call that currently just picks from jobsub01..3 at random; how should the thin-client jobsub pick a schedd? Should the avaliable schedd's be listed in a config, or should there be a web page we should check, or???
- Do we want to support resilient DCache for tarball dropoff, or only the cvmfs publication service (which is how I have it at the moment).

#3 - 05/05/2020 02:57 PM - Dennis Box

Recipe for submitting using raw condor commands on jobsubdevgpvm01. According to condor_q -better-analyze, these jobs will eventually run

1) make a proxy using kx509 or voms-proxy-init or whatever. In this example its called 'nova_proxy'

2) scp nova_proxy rexbatch@jobsubdevgpvm01:dbox/submit_dir/testjobs

3) ssh rexbatch@jobsubdevgpvm01.fnal.gov

-bash-4.2$ cd dbox/submit_dir/testjobs

-bash-4.2$ cat testjob.jdf
universe = vanilla

executable = system-info.sh
output = joboutput/out.$(cluster).$(process)
error = joboutput/err.$(cluster).$(process)
log = joboutput/log.$(cluster).$(process)

should_transfer_files = YES
when_to_transfer_output = ON_EXIT_OR_EVICT

#x509userproxy=/local/home/testuser/security/grid_proxy
x509userproxy=nova_proxy

Requirements =

queue 3

-bash-4.2$ condor_submit testjob.jdf
Submitting job(s)...
3 job(s) submitted to cluster 39107.

-bash-4.2$ condor_q rexbatch

```
-- Schedd: jobsubdevgpvm01.fnal.gov : <131.225.240.23:9615?... @ 05/05/20 14:54:50
OWNER   BATCH_NAME   SUBMITTED   DONE   RUN   IDLE   TOTAL JOB_IDS
rexbatch ID: 39107   5/5  14:42     _     _     3      3 39107.0-2
```

Total for query: 3 jobs; 0 completed, 0 removed, 3 idle, 0 running, 0 held, 0 suspended
Total for all users: 93 jobs; 0 completed, 0 removed, 93 idle, 0 running, 0 held, 0 suspended

~~bash-4.2$~~
~~-bash-4.2$ ls -lart joboutput/~~
~~total 20~~
~~drwxr-xr-x 3 rexbatch fife 4096 May 5 14:42 ..~~
~~-rw-r--r-- 1 rexbatch fife 1113 May 5 14:42 log.39107.1~~
~~-rw-r--r-- 1 rexbatch fife 1113 May 5 14:42 log.39107.0~~
drwxr-xr-x 2 rexbatch fife 4096 May 5 14:42 .
~~-rw-r--r-- 1 rexbatch fife 1113 May 5 14:42 log.39107.2~~

-bash-4.2$ condor_q -better-analyze 39107.0

-- Schedd: jobsubdevgpvm01.fnal.gov : <131.225.240.23:9615?...
The Requirements expression for job 39107.000 is

```
(TARGET.Arch   "X86_64") && (TARGET.OpSys   "LINUX") && (TARGET.Disk >= RequestDisk) && (TARGET.Memory >= Reques
tMemory) &&
    (TARGET.HasFileTransfer)
```

Job 39107.000 defines the following attributes:

```
JobUniverse = 5
    RequestDisk = ifThenElse(JobUniverse != 7,10000000,16000)
    RequestMemory = ifThenElse(JobUniverse != 7,2000,10)
```

The Requirements expression for job 39107.000 reduces to these conditions:

```
Slots
Step    Matched   Condition
-----   --------  ---------
[0]       15923   TARGET.Arch   "X86_64"
[1]       15923   TARGET.OpSys   "LINUX"
[3]       14079   TARGET.Disk >= RequestDisk
[5]        9509   TARGET.Memory >= RequestMemory
[6]        8551   [3] && [5]
```

No successful match recorded.
Last failed match: Tue May 5 14:44:17 2020

Reason for last match failure: no match found

39107.000: Run analysis summary ignoring user priority. Of 2135 machines,
97 are rejected by your job's requirements
1721 reject your job because of their own requirements
0 match and are already running your jobs
0 match but are serving other users
317 are able to run your job

-bash-4.2$

#4 - 06/25/2020 04:27 PM - Marc Mengel

Notes from jobsub_lite code review:

1. ☐ Dictionary from arguments -- use vars(x) over x.__dict__
2. ☐ Maybe move arg parser to separate file: many loc, not otherwise complicated.
3. ☐ Possilby other splitouts? Tarfiles? dagnabbit parser?
4. File versus params on command line -- if fixed lose if's about it and debug prints
5. Add unit test/example comments to methods, esp. unit converter; would make it clearer.
6. Document taking either upper/lower case.
7. ☐ verify file: prefix in argparse(?) use type=func for argparse to check it.
8. ☐ Look at using condor bindings to check what schedd's are there,
9. ☐ and possilby also for submitting.
   ○ https://htcondor.readthedocs.io/en/latest/apis/python-bindings/api/htcondor.html
10. ☐ Use rdcs round-robin DNS and drop picking server from list on tarball upload
11. -Review n ways to upload files: question: still support drobpox:/tardir: on -f parameters?
12. Authentication: for current stuff need cigetcert/myproxy call;
13. for future stuff need suitable tokens bits.
14. Check more if dagnabbit should support nested <parallel> ... <serial> </serial> </parallel>

15. typo requirement in template files.
16. ☐ Looks much easier to maintain, and easier to find things.
17. Do we want % formatting or .format() ? I'm in the habit of % formatting, bears discussion.
18. ☐ Should we use os.path() versus formatted paths?
19. Put future suggestions in ticket; make subtickets on this ticket or obvious stuff just fix and commit.

Thanks to Vito, Bruno, and especially Shreyas for attending.

#5 - 09/23/2020 10:49 AM - Marc Mengel

So there is an example of using scitokens in a submit file:

https://github.com/htcondor/scitokens-credmon/blob/master/examples/submit/scitoken_example/single_scitoken.submit

which is supposed to let you say what token bits your job needs (?).
Do we add these to our jobsub_lite templates?

There are notes at scitokens-credmon: Testing the credmon...

Also https://cdcvs.fnal.gov/redmine/projects/glideinwms/wiki/CredMonScitokensDocker

#6 - 09/23/2020 11:18 AM - Marc Mengel

Also adding Jobsub_lite_design_document per Tanya's request.