

XALT Monthly Meeting: Testing XALT at your site

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Nov. 11, 2021

XALT: Outline



XALT

- ▶ Testing XALT installation at your site.
- ▶ Use `xalt_extract_record`
- ▶ Testing File Transport
- ▶ Testing syslog style transport
- ▶ Possibly using XALT tests at your site
- ▶ Integrate XALT tests into github actions

Testing w/ File transport

- ▶ Easiest way to test
- ▶ `export XALT_TRANSMISSION_STYLE=file`
- ▶ Write results to `$HOME/.xalt.d`
- ▶ Count *.json files

Testing w/ File transport (II)

- ▶ Linking \Rightarrow link.*.json files
- ▶ Package \Rightarrow pkg.*.json files
- ▶ Running \Rightarrow run.*.json files
- ▶ Start Records \Rightarrow run.*.aaa.*.json files (MPI Only)
- ▶ End Records \Rightarrow run.*.zzz.*.json files

Possible tests (file)

- ▶ Build simple program (hello)
- ▶ Set \$HOME to anywhere you need.
- ▶ export XALT_EXECUTABLE_TRACKING=yes
- ▶ Run Scalar (XALT_SAMPLING=no ./hello)
- ▶ Run MPI (XALT_COMM_WORLD_SIZE=129 ./hello)
- ▶ Count link files
- ▶ Count start records
- ▶ Count end records

Testing with syslog transport

- ▶ Probably do not want to use syslog for testing
- ▶ `export XALT_EXECUTABLE_TRACKING=logger`
- ▶ Fake syslog with a personal logger program
- ▶ `Grep syslog.log` for counts

Create a logger program

```
#!/bin/bash
# *- shell-script *-

shift
TAG=$1
shift

echo $TAG "$@" >> syslog.log
```

Interpreting results from syslog.log

- ▶ Records are split into blocks
- ▶ First record is always idx:01
- ▶ Link records have kind:link
- ▶ Start records have key:run_strt
- ▶ End records have key:run_fini
- ▶ Use grep to count matching patterns

Using XALT Testing system

- ▶ It is what I use to test XALT
- ▶ It tests various scenarios
- ▶ It writes *.json files or syslog records into a test DB in MySQL
- ▶ Test do check for the number of records by type
- ▶ Testing is good/quick but not as exhaustive as Lmod.

XALT Testing System Requirements

- ▶ Themis: <https://github.com/TACC/themis>
- ▶ A Local MySQL server running
- ▶ db: testxalt; user xaltTest
- ▶ gcc and mpich installed
- ▶ Module system with gcc, mpich modules
- ▶ mpirun program works
- ▶ 1 Node. (MPI programs use 2-4 tasks)

Side Note: Integrating XALT testing into github

- ▶ I would like to use github actions
- ▶ Have not figured out how to setup mysql inside container

Conclusions

- ▶ `xalt_extract_record user_program` to see the XALT Watermark
- ▶ Use file transport to check *.json
- ▶ Use logger transport to check syslog tracking
- ▶ Possibly use xalt testing locally.
- ▶ Willing to work with anyone who tries any system.

Future Topics?

- ▶ Package tracking
- ▶ Extracting results from the DB.
- ▶ Others?