XALT Monthly Meeting: Testing XALT at your site

Robert McLay

Nov. 11, 2021

XALT: Outline

- ► 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 ⇒ link.*.json files
- ► Package ⇒ pkg.*.json files
- ► Running ⇒ run.*.json files
- ► Start Records:⇒ run.*.aaa.*.json files (MPI Only)
- ► End Records:⇒ 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

```bash
#!/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 options
- ▶ It writes *.json file 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 moduless
- ▶ 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 to do it.

Future Topics?

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