Trilinos Framework Update

TUG 2022 Meeting

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CSRI/90, Sandia National Laboratories
Changes in Framework over the Past Year

Pull Requests (PRs) and Master Merges (MMs) have been unstable.

- Build/Test platform instabilities with limited redundancies.
  - Working on improving computational resources available for PR/MM build and testing.

- Staff Changes
  - Only one team member remains from a year ago!
  - Lost a lot of expertise!
  - New staff are on the learning curve.
  - Jim Willenbring has changed roles.
    - Is focusing on related Exascale Computing Project (ECP) and xSDK work.
    - Is focusing on developing external testing capabilities for Trilinos.
    - Is moving away from core Framework PR and MM work.
    - New Product Lead role – “Sustainable Software”.
  - Curt Ober is taking on the Framework Product Lead role.

- Sandia Cyber Security is tightening.
  - Loss of ability to post internal test results to externally accessible sites.
  - Working towards re-establishing this (Spring/Summer of 2023)
  - Likely additional security constraints in the future.
Major Framework Tasks for FY2023

• Framework Instabilities (from previous slide)
  • Build/Test platforms
  • Staffing
  • Cyber Security

• Support development for AMD-based platforms (El Capitan)

• Release of Trilinos 14.0 (near future)
  • C++17
  • Kokkos 4.0

• Development of Spack and Container Support
  • See panel discussion on Thursday.

• Archival of Unsupported packages
  • Domi, Komplex, Moertel, Pike, Rythmos, and TriKota
  • Trilinos 15.0?

• Development of Internal/External Testing

• Development of Performance Testing
  • See talk on Thursday morning.

• Build and Test of Trilinos that is representative of Sandia applications.
Trilinos Status

- **New Status Table**
  - [https://github.com/trilinos/Trilinos/wiki](https://github.com/trilinos/Trilinos/wiki)

- **Daily indication of build/test health**
  - PR/MM status
    - **Green Check** – everything OK.
    - **Yellow !** – something wrong but still processing.
    - **Red X** – Everything broken.

- **Tracks number of**
  - PRs merged
  - PRs failed
  - MMs merged
  - PRs in the queue (will adjust)

  - Tickets contain current information on the problem.

### Trilinos Status Table

**NOTE** - The metrics in the table below are a snapshot of the Pull Requests state as of 12:00pm (noon) for each row. Links provide the current state of that search, which may differ from the 12:00pm (noon) search.

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<th>Date</th>
<th>PR Status</th>
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<th>MM Status</th>
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Questions?