

Priorities for version 1.13

Chapel Team, Cray Inc.
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Top Priorities for 1.13

- 1. Memory management improvements**
 - automatic mem. mgmt, constructors/destructors/[no]init, array ref count fixes
- 2. Strings: get current work onto master; UTF-8 support**
- 3. Single-locale performance**
 - complete LCALS study, NUMA, KNL, vectorization, leader-follower 2.0
- 4. Multi-locale performance/scalability**
 - data-centric locality, communication optimizations, optimize reductions
- 5. Continued focus on Twitter benchmark / data analytic computations**
- 6. Compiler IR cleanup/refactoring/v2**
 - including additional work on IPE/REPL
- 7. Additional standard/numerical libraries**
 - BLAS, GSL, date/time, improved RNG, more FFTW(?), MPI(?), ...
- 8. Array/domain improvements (assoc. improvements, array-as-vec)**
- 9. Additional namespace improvements**
- 10. Finish defining error-handling story (and start implementation?)**





Top Process, Build/Test/Release Improvements

- **Compatibility for Python 3 Users**
- **Support for Chapel packages on Debian/Fedora/...**
- **Additional web documentation**
 - Users guide
 - Examples/primers on web (?)
- **Jenkins support for testing a given branch / SHA**
- **Beef up use of / support for JIRA**
- **Ability to test examples in chpldoc comments**
- **Show nightly results as diffs against vanilla run (?)**
 - goal: common failure results in 1 mail rather than #configs



Other Priorities

Ongoing Efforts:

- error message improvements
- compilation time improvements
- bug fixes
- Qthreads improvements (in conjunction with Sandia)
- review/submit shootout entry (upon completion of strings)

On deck:

- GPUs
- concepts
- task teams and collectives on same



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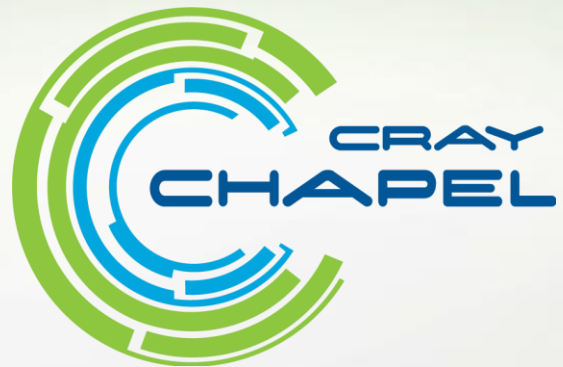
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