

## Top Priorities for version 1.11

Chapel Team, Cray Inc.  
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2

## Top 11 Priorities for version 1.11



1. NUMA/KNC/KNL tuning/porting (incl. SIMD-ization, better first-touch)
  2. Strings: record-based, leak-free, UTF-8, with library routines
  3. Integration of constructors + default initialization + noinit
  4. Task intents: data parallelism, additional intents, reduction intents
  5. Multi-locale scalability and performance improvements
    - Including diagnosis and optimization of reductions' performance
  6. Libraries: documentation, file/path utilities, string routines, BLAS
  7. ugni+muxed: explore making Cray default, mixing w/ gasnet/qthreads
  8. Support for standalone parallel iterators
  9. Interpreter improvements, ideally including parallel execution
  10. Complete shootout entry, while minimizing shootout-specific efforts
  11. Strategizing for dealing with Physical vs. Logical thread counts
- + Additional process improvements



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3

It should be noted that these reflect Brad's priorities and may not reflect those of others in the project.

## Top Process Improvements



- **Streamline process of obtaining performance numbers**
- **Nightly reporting and graphing of Cray test results**
- **Reduce human oversight for building/testing modules**
- **Documentation improvements**
  - Create standard library documentation on web
  - Increase use of Markdown and reStructuredText in other docs for web
  - Modernize creation/maintenance of chapel.cray.com web content
- **Test system improvements**
  - Reduce # of files used in some common cases via YAML files
  - Create means of specifying multi-locale testing configurations
    - Also consider support for automated scalability studies
- **Establish issue tracker and tie into testing system**



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5



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