



# Other Miscellaneous and Notable Changes

Chapel Team, Cray Inc.  
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# Outline

- Packaging Improvements
- Tool Improvements
- Error Message Improvements
- Bug Fixes



# Packaging Improvements





# Packaging Improvements

- **Can now source setchplenv.\* scripts from anywhere**
  - used to require being in \$CHPL\_HOME
- **Retired CHPL\_THREADS environment variable**
- **Renamed etc/ directory to highlight/**
  - since all it contains is syntax highlighters
- **Cray Chapel module now statically links 'chpl'**



# Tool Improvements



# Tool Improvements

- **Added folding for ‘vim’ users**
  - (contributed by Przemysław Leśniak)
- **Added ability to enable/disable ‘chplvis’ tracing**
  - (contributed by Phil Nelson)
- **Made ‘chpltags’ portable to older ‘ctags’ versions**



# Error Message Improvements



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# Error Message Improvements

- Improved const checking for domains and arrays
- Variable decls over incomplete generics result in an error
- Stopped warning about serialized reductions – it's OK
- Non-extern functions with no-op bodies generate an error
  - e.g., `proc foo(x: int);`
- Reduced printing of internal line numbers in error msgs
- Strings containing bad escape sequences cause an error
- Better message for values in `$CHPL_RT_NUM_THREADS_PER_LOCALE`
- Better messages for illegal/incorrect 'use' statements
- New error msg when naming fields within 'with' clauses
- Error message for 'real\*2' suggesting '2\*real'



# Bug Fixes



# Bug Fixes

- Reduce intents on forall loops over ranges now work
- Fixed zip() iteration over equivalent associative doms/arrs
- Fixed ability to declare a 'ref' to a domain or array
- Fixed bad resolution of overridden/overloaded methods
- Fixed a bug in which generic types printed incorrectly
- Fixed assignment between generic records bug
- Fixed bug with extern type decls in generic procedures
- Fixed isHomogeneousTuple\*() for non-tuple arguments
- Fixed a bug with self-references in module 'use' lists
- Fixed runtime representations of boolean literals



# More Bug Fixes

- Fixed a bug w.r.t. reduce intents and on-clauses
- Fixed a bug when returning tuples of arrays
- Fixed a bug when initializing near-maximally-sized arrays
- Fixed a bug in Block/Cyclic par iters for arrays of arrays
- Fixed a bug in subtype checks handling transitivity
- Fixed bugs in default I/O routines for subclasses
- Fixed some Spawn module issues
- Made I/O functions more tolerant of EINTR
- Fixed bugs in which I/O routines ran on wrong locale
- Fixed a bug in formatted reads of digits





# Even More Bug Fixes

- Fixed a bug preventing `channel.itemWriter()` from working
- Improved the handling of C escapes in string literals
- Fixed handling of escape chars in `compilerWarning/Error`
- Fixed nested, same-name modules, each with `main()`
- Fixed bug where Qthreads didn't allocate enough storage
- Fixed line numbers reported for standalone iterators
- Fixed a bug in which records were not properly widened
- Fixed a bug in which [in]out records could be double-freed
- Fixed a bug in 'chpldoc's handling of mid-decl comments
- Fixed a bug when codegen failed to open files



# Just a Few More Bug Fixes

- Made compiler resilient to userIDs with backslashes
- Fixed a bug with size assertions in SysCTypes
- Fixed chpl-venv path to use host, not target, platform
- Fixed line numbers for formal domain query expressions
- Fixed a bug in which sleep() could awaken tasks too soon



# Cray-specific Bug Fixes

- Resolved a rare program hang in 'ugni' communication
- Fixed 'ugni' memory mis-registration under CLE 6.\*
- Plugged a memory leak in 'ugni' for certain remote on's





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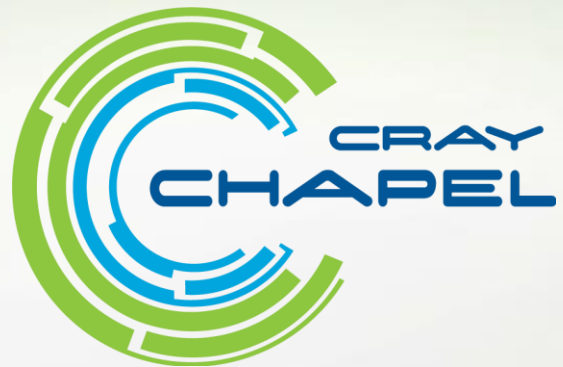
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