



Extreme Scale Software Stack Programs Products

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DEGAS Software Technologies

- UPC++ programming system: <https://bitbucket.org/upcxx>
- UPC++ miniGMG implementation: <https://bitbucket.org/upcxx/minimg/downloads>
- UPC++ HPGMG-FV implementation: <https://bitbucket.org/upcxx/hpgmg/downloads>
- Habanero-UPC++ PGAS library: <http://habanero-rice.github.io/habanero-upc>
- GASNet PGAS communications library: <http://gasnet.lbl.gov>
- Berkeley Lab Checkpoint/Restart (BLCR): <http://ftg.lbl.gov/checkpoint>
- CTree implementation of the Selected Embedded Just-in-Time Specializations (SEJITS): <https://github.com/mbdriscoll/ctree>
- API specification for Containment Domains: <http://lph.ece.utexas.edu/users/CDAPI>
- CAF2.0 translation of CGPOP:
<http://svn.rice.edu/r/caf/caf-compiler/tests/benchmarks-forthcoming/cgpop-caf2/caf2D/>
- CAF2.0 translation of miniGhost:
<http://svn.rice.edu/r/caf/caf-compiler/tests/benchmarks-forthcoming/minighost/miniGhost-mgr-caf2/>
- HipMer: High-Performance Meraculous genome assembly pipeline:
<https://sourceforge.net/projects/hipmer>

D-TEC Software Technologies

- D-TEC compiler and verification research work, X10-ROSE support, Embedded DSL compilers, and ROSE connection to OpenTuner: <http://www.rosecompiler.org/>
- The Open Fortran Project's (OFP) parser: <https://github.com/OpenFortranProject/ofp-sdf> .
- Rosebud: <https://svn.rice.edu/r/rosebud> .
- Halide: <http://halide-lang.org>
- OpenTuner: <http://opentuner.org/>
- The X10 toolchain, X10/APGAS runtime system, and the X10 proxy applications: <http://x10-lang.org/>
- Bamboo: <http://cseweb.ucsd.edu/groups/hpcl/scg/BambooWebsite/>
- PolyOpt is a ROSE plug-in distributed with ROSE and also available at: http://hpcrl.cse.ohio-state.edu/wiki/index.php/Polyhedral_Compilation
- Simit: <http://groups.csail.mit.edu/commit/> .
- Sketch: <http://people.csail.mit.edu/asolar/>.

D-TEC Software Technologies

- Sketch: <http://people.csail.mit.edu/asolar/>.
- Cloverleaf auto-converted using synthesis: <http://people.csail.mit.edu/asolar/>.
- Lulesh built using synthesis: <http://people.csail.mit.edu/asolar/>.
- MSL, the distributed synthesis language: at <http://people.csail.mit.edu/asolar/>.
- Rely: at <http://people.csail.mit.edu/mcarbin/>.
- Rosette, a Racket-based language for hosting solver-aided DSLs: <http://homes.cs.washington.edu/~emina/rosette/>.
- Chlorophyll: synthesis-aided DSL and compiler for spatial parallel architectures: <http://pl.eecs.berkeley.edu/projects/chlorophyll/>.

Traleika Glacier software technologies

- R-Stream:
<https://www.reservoir.com/product/r-stream/>
- CnC: <https://icnc.github.io>
- Habanero-C:
<https://wiki.rice.edu/confluence/display/HABANERO/Habanero-C>
- HTA <http://polaris.cs.uiuc.edu/hta/>
- OCR <https://xstack.exascale-tech.com/git/public>

XPRESS Software Technologies

- HPX-3: <http://www.rosecompiler.org/>
- HPX-5: <https://hpx.crest.iu.edu/download>
- Kitten Lightweight kernel:
<https://hpx.crest.iu.edu/download>
- OpenMPI:
<https://www.open-mpi.org/software/ompi/v1.10/>
- Taudb:
<https://www.cs.uoregon.edu/research/tau/downloads.php>
- OMPTX: <https://github.com/uhhpctools/omptx>

PIPER Software Technologies

- Dynist - Dynamic Instrumentation Library:
<http://www.paradyn.org/html/dyninst9.0.3-features.html>
- MRNet 5.0 - Tree-based Overlay Network]
<http://www.paradyn.org/html/mrnet5.0.0-features.html>
- Tool Interfaces for OpenMP OMPT/OMPD –
<https://github.com/OpenMPToolsInterface>
- Sampling centric analysis and blame shifting
<http://hpctoolkit.org/HPCToolkit>
- Boxfish - Visual performance analysis through data centric mappings
<https://computation.llnl.gov/project/performance-analysis-through-visualization/software.php>
- Ravel - MPI trace visualization using logical timelines
<https://github.com/scalability-llnl/ravel>
- Visualization of on-node memory traffic
<https://github.com/scalability-llnl/MemAxes> MemAxes/Mitos
- Multiparameter Tuning System
<http://www.dyninst.org/harmony> Active Harmony 4.5

X-Stack Software Technologies from Small Projects

- CHiLL and CUDA-CHiLL provide the autotuning compiler technology, and are available from <http://github.com/CtopCsUtahEdu/chill-dev>
- Orio manages navigation of the autotuning search space and is available from <http://brnorris03.github.io/Orio>
- Orio-CHiLL: new module in Orio provides integration with CHiLL and CUDA-CHiLL, and is available from <http://github.com/brnorris03/Orio/tree/master/orio/module/chill>
- SURF: new search algorithm module in Orio available from <http://github.com/brnorris03/Orio/tree/master/orio/main/tuner/search/mlsearch>
- TCR: domain-specific tensor contraction code generation and decision algorithm for GPUs available from <http://github.com/axelyamel/tcg-autotuning>

X-Stack Software Technologies from Small Projects

- UPC Thrille <http://upc.lbl.gov/thrille.html/%20UPC-Thrille>
- Precimonious <https://github.com/corvette-berkeley/precimonious>
- ReproBLAS <http://bebop.cs.berkeley.edu/reproblas/>
- GVR Software <http://gvr.cs.uchicago.edu/>
- TAU Performance System (TAU v2.25, PDT v3.21), available: <http://tau.uoregon.edu/>
- Updates to better support MPC <http://mpc.paratools.fr.>
- SHOC Benchmark Suite : <https://github.com/vetter/shoc>
- OpenARC: Open Accelerator Research Compiler, <http://ft.ornl.gov/research/openarc>

X-Stack Software Technologies from Small Projects

- GMAC Library (v0.0.20): <http://code.google.com/p/adsm/>
- DiGPUFFT (distributed GPU FFT): <http://code.google.com/p/digpufft/>
- Yeppp!, a SIMD-optimized math library: <http://www.yeppp.info/>
- SuperLU_DIST 4.0 (with GPU support):
<http://crd-legacy.lbl.gov/~xiaoye/SuperLU/>