### B UPC Runtime + GASNet

- Well-documented runtime interface
  - Supports multiple UPC compilers (Berkeley UPC and Intrepid GCC/UPC)
  - Performance Instrumentation Support (GASP)
  - Supports Parallel Performance Wizard (PPW)
  - Detailed Communication tracing support
  - GASNet trace & stats
  - Etnus TotalView debugger support
  - Provides app interoperability:
    - UPC calls to/from C, C++, Fortran, MPI
  - Berkeley GASNet used for communication:
    - Portability from layered design
    - Performance from inline functions, macros, and network-specific implementations
    - Support SMP, Myrinet, Quadrics Elan 3/4, Infiniband, IBM LAPI, Dolphin SCI, MPI, Ethernet, Cray X1 / SGI Altix shmem, Cray XT3 Portals
    - Optimized Collective ops (SC poster session)
    - High-performance communication
      - Consistently matches or outperforms MPI
      - One-sided, lightweight semantics

### Publishable Performance

- High level representation for good serial performance
- Preserve restrict qualifiers and optimization pragmas