**OMPL2001 Result**

**SGI Altix 3000 (1500MHz, Itanium 2)**

SPECompLpeak2001 = --
SPECompLbase2001 = 344099

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Reference Time</th>
<th>Base Runtime</th>
<th>Base Ratio</th>
<th>Peak Runtime</th>
<th>Peak Ratio</th>
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<td>311.wupwise_l</td>
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</table>

**Hardware**

- **CPU:** Intel Itanium 2
- **CPU MHz:** 1500
- **FPU:** Integrated
- **CPU(s) enabled:** 64 cores, 64 chips, 1 core/chip
- **CPU(s) orderable:** 4-256
- **Primary Cache:** 16KBI + 16KBD (on chip) per core
- **Secondary Cache:** 256KB (on chip) per core
- **L3 Cache:** 6.0MB (on chip) per core
- **Other Cache:** N/A
- **Memory:** 256 GB (16*1024 MB PC2100 DIMMs per 4 core module)
- **Disk Subsystem:** 1 x 36 GB SCSI (Seagate Cheetah 15k rpm)
- **Other Hardware:** None

**Software**

- **OpenMP Threads:** 64
- **Parallel:** OpenMP
- **Operating System:** SGI ProPack(TM) 3
- **Compiler:** Intel(R) Fortran Compiler for Linux 8.0 (Build 20040416)
  Intel(R) C++ Compiler for Linux 8.0 (Build 20040416)
- **File System:** xfs
- **System State:** Single-user

**Notes/Tuning Information**

Baseline optimization flags:

- C programs: -openmp -O3 -ipo -ansi -ansi_alias (ONESTEP)
- Fortran programs: -openmp -O3 -ipo (ONESTEP)

OpenMP runtime library libguide.a statically linked.

Extra Flags:

- 331.art_l: -DINTS_PER_CACHELINE=32 -DDBLS_PER_CACHELINE=16

Baseline user environment:

- OMP_NUM_THREADS=64
- limit stacksize 256000
- KMP_STACKSIZE 124M
- KMP_LIBRARY TURNAROUND
- OMP_DYNAMIC FALSE
- KMP_SCHEDULE static,balanced

Alternate sources:

- Add critical region around update of linked list in parallel loop.
- Approved src.alt available as ompl-purdue1-20040324.tar.gz
- Used for 331.art_l base.

For all benchmarks threads were bound to CPUs using the following submit command:

dplace -x2 -cNTM1,0 $command,

where NTM1 is the number of threads minus 1.

This binds threads in order of creation, beginning with the master thread on cpu NTM1, the first slave thread on cpu NTM1-1, and so on.
Notes/Tuning Information (Continued)

The -x2 flag instructs dplace to skip placement of the lightweight OpenMP monitor thread, which is created prior to the slave threads.