OMPL2001 Result

SGI
SGI Altix 3700 Bx2 (1600MHz 9M L3, Itanium 2)

SPECompLpeak2001 = --
SPECompLbase2001 = 507602

<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>
</tr>
</thead>
<tbody>
<tr>
<td>311.wupwise_l</td>
<td>9200</td>
<td>307</td>
<td>479551</td>
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<td>313.swim_l</td>
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<td>327.gafort_l</td>
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<td>331.art_l</td>
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</tbody>
</table>

Hardware
- CPU: Intel Itanium 2
- CPU MHz: 1600
- FPU: Integrated
- CPU(s) enabled: 64 cores, 64 chips, 1 core/chip
- CPU(s) orderable: 8-512
- Primary Cache: 16KBI + 16KBD (on chip) per core
- Secondary Cache: 256KB (on chip) per core
- L3 Cache: 9.0MB (on chip) per core
- Other Cache: N/A
- Memory: 256 GB (2*1024MB PC2700 DIMMS per 8 core module)
- Disk Subsystem: 16x73GB FC Seagate Cheetah 15K rpm (striped)
- Other Hardware: None

Software
- OpenMP Threads: 64
- Parallel: OpenMP
- Operating System: SGI ProPack(TM) 3 Service Pack 1
- Compiler: Intel(R) Fortran Compiler for Linux 8.1 (Build 20041021)
- Intel(R) C++ Compiler for Linux 8.1 (Build 20041021)
- File System: xfs
- System State: Multi-user

Notes/Tuning Information
Baseline optimization flags:
C programs: -openmp -O3 -IPF_fp_relaxed -ipo -ansi -ansi_alias (ONESTEP)
Fortran programs: -openmp -O3 -IPF_fp_relaxed -ipo (ONESTEP)
OpenMP runtime library libguide.a statically linked

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

User environment:
OMP_NUM_THREADS 64
limit stacksize 256000
KMP_STACKSIZE 124M
KMP_LIBRARY TURNAROUND
OMP_DYNAMIC FALSE
KMP_SCHEDULE static,balanced

Peak optimization flags
311.wupwise_l: basepeak=true
313.swim_l: basepeak=true
315.mgrid_l: basepeak=true
317.applu_l: basepeak=true
321.equake_l: basepeak=true
325.apsi_l: basepeak=true
327.gafort_l: basepeak=true
329.fma3d_l: basepeak=true
331.art_l: basepeak=true
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Notes/Tuning Information (Continued)

Required 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 and peak.

For all benchmarks threads were bound to cores 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 core NTM1, the first slave thread on core NTM1-1, and so on.
The -x2 flag instructs dplace to skip placement of the lightweight
OpenMP monitor thread, which is created prior to the slave threads.

For a description of SGI's compiler flags, portability flags, and
system parameters used to generate this result, please refer to the
SGI-20041118-Linux-Intel8.1-IPF.txt file in the flags directory.