# OMPL2001 Result



## SGI

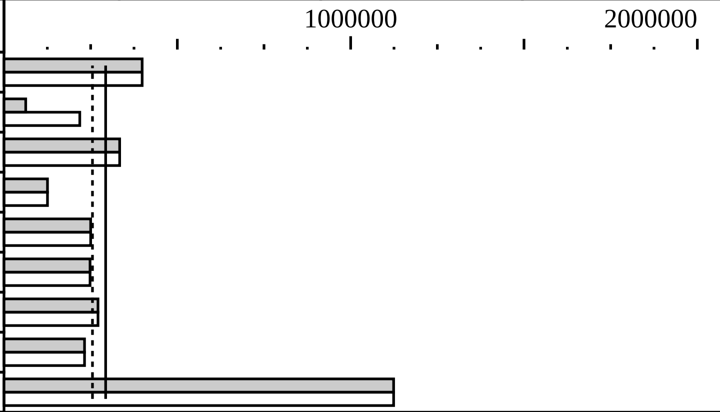
SGI Rackable C1001-G5 (AMD Opteron 6174, 2.20 GHz)

SPECompLpeak2001 = 293213

SPECompLbase2001 = 255209

| SPEC license #: HPG0014 | Tested by: SGI | Test site: SGI | Test date: Jan-2011 | Hardware Avail: Sep-2010 | Software Avail: Nov-2010 |
|---|---|---|---|---|---|

| Benchmark | Reference Time | Base Runtime | Base Ratio | Peak Runtime | Peak Ratio |
|---|---|---|---|---|---|
| 311.wupwise_l | 9200 | 369 | 398535 | 369 | 398535 |
| 313.swim_l | 12500 | 3191 | 62671 | 915 | 218602 |
| 315.mgrid_l | 13500 | 647 | 333652 | 647 | 333652 |
| 317.applu_l | 13500 | 1722 | 125436 | 1722 | 125436 |
| 321.equake_l | 13000 | 832 | 249985 | 832 | 249985 |
| 325.apsi_l | 10500 | 677 | 248221 | 677 | 248221 |
| 327.gafort_l | 11000 | 649 | 271179 | 649 | 271179 |
| 329.fma3d_l | 23500 | 1619 | 232312 | 1619 | 232312 |
| 331.art_l | 25000 | 356 | 1123918 | 356 | 1123918 |




### Hardware

| | |
|---|---|
| CPU: | AMD Opteron(tm) Processor 6174 |
| CPU MHz: | 2200 |
| FPU: | Integrated |
| CPU(s) enabled: | 24 cores, 2 chips, 12 cores/chip |
| CPU(s) orderable: | 1-2 chips |
| Primary Cache: | 64 KB I + 64 KB D on chip per core |
| Secondary Cache: | 512 KB I+D on chip per core |
| L3 Cache: | 12 MB I+D on chip per chip, 6 MB shared / 6 cores |
| Other Cache: | None |
| Memory: | 64 GB (16 x 4 GB, 2Rx4 PC3-10600R-9, ECC) |
| Disk Subsystem: | 5.8 TB RAID 5<br>20 x 146 GB + 40 x 73 GB FC (Seagate Cheetah 15K.4) |
| Other Hardware: | None |

### Software

| | |
|---|---|
| OpenMP Threads: | 24 |
| Parallel: | OpenMP |
| Operating System: | SUSE Linux Enterprise Server 11 SP1 (x86_64),<br>Kernel 2.6.32.13-0.4-default |
| Compiler: | Open64 Compiler Suite: Version 4.2.4 |
| File System: | NFSv3 IPoIB |
| System State: | Run Level 3 (Multi-User) |

## Notes/Tuning Information

```
Base and Peak User Environment (bash):
  export OMP_NUM_THREADS=24
  export OMP_DYNAMIC=FALSE
  export O64_OMP_SPIN_COUNT=1000000000
  export O64_OMP_SPIN_USER_LOCK=TRUE
  export O64_OMP_SET_AFFINITY=TRUE
  export O64_OMP_AFFINITY_MAP=" 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23"
  export OMP_SLAVE_STACK_SIZE=22M
  ulimit -s unlimited

For Compiler/OpenMP flags description please refer:
SGI-x86-open64-424-flags.html

Base and Peak tuning:
  C       : opencc -mp -Ofast -march=barcelona -mcmodel=medium
  Fortran : openf90 -mp -Ofast -march=barcelona -OPT:early_mp=on -mcmodel=medium
  ONESTEP=yes

Peak tuning:
  basepeak=yes for all benchmarks except 311.swim_l

  313.swim_l   : FOPTIMIZE = -mp -O3 -OPT:Ofast -m3dnow -mcmodel=medium
                 -LNO:simd=0:prefetch_ahead=5:prefetch=3

Additional notes for disk subsystem:
```

## Notes/Tuning Information (Continued)

```
The disk subsystem is mounted through NFS over IPoIB via 4x DDR
InfiniBand network. The local disk on the system is only for the OS.
```