OMPL2001 Result

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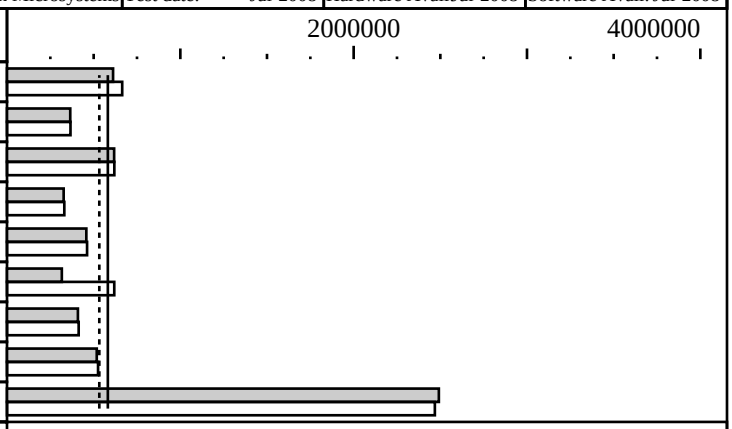
Sun Microsystems
Sun SPARC Enterprise M8000

SPECompLpeak2001 = 581807

SPECompLbase2001 = 532576

SPEC license #HPG0010 | Tested by: Sun Microsystems | Test site: Sun Microsystems | Test date: Jul-2008 | Hardware Avail:Jul-2008 | Software Avail: Jul-2008

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio
311.wupwise_l	9200	241	611949	221	664612
313.swim_l	12500	548	364887	546	366251
315.mgrid_l	13500	349	618105	349	619202
317.applu_l	13500	661	326864	653	330642
321.equake_l	13000	454	457725	450	461973
325.apsi_l	10500	531	316289	271	618806
327.gafort_l	11000	430	409094	426	413491
329.fma3d_l	23500	726	517805	716	525312
331.art_l	25000	161	2491462	162	2468435



Hardware

CPU:	SPARC64 VII
CPU MHz:	2520
FPU:	Integrated
CPU(s) enabled:	64 cores, 16 chips, 4 cores/chip, 2 threads/core
CPU(s) orderable:	1 to 4 CMUs; each CMU contains 2 or 4 chips
Primary Cache:	64 KB I + 64 KB D on chip per core
Secondary Cache:	6 MB I+D on chip per chip
L3 Cache:	None
Other Cache:	None
Memory:	256 GB (128 x 2 GB)
Disk Subsystem:	Seagate 73 GB 10000 RPM SAS
Other Hardware:	--

Software

OpenMP Threads:	64
Parallel:	OpenMP and Automatic Parallelization
Operating System:	Solaris 10 5/08 with patch 137111-03
Compiler:	Sun Studio 12 with patches 124867-06, 124861-07, 124863-05, 127000-05
File System:	UFS
System State:	Multi-User

Notes/Tuning Information

```
Base Notes:
  C:   -fast -xopenmp -xalias_level=std -xipo=2
       -xprefetch_level=3 -xcode=abs44 -m64 -lmtmalloc
       -g -xpagesize=4m -Xc -xprofile

  f90: -fast -openmp -xcode=abs44 -m64 -xipo=2 -autopar
       -fma=fused -g -xpagesize=4m -xprofile

  ONESTEP=yes

Extra art allowed flags:
  331.art_l:     -DINTS_PER_CACHELINE=16 -DDBLS_PER_CACHELINE=8

Peak Notes:
  ONESTEP=yes

  311.wupwise_l: -fast -openmp -xunroll=4 -autopar -m64 -xcode=abs44
                 -xipo=2 -fma=fused -xpagesize=512k
                 -Qoption iropt -Athr,-Apf:l2subblock=256,-Apf:ipa=9
                 -xprefetch=latx:3 -Qoption iropt -Rloop_dist
                 -xprofile
  313.swim_l:    -fast -openmp -m64 -xipo=2 -autopar -fma=fused
                 -xpagesize=512k -xprefetch=latx:3 -xprofile
  315.mgrid_l:   -fast -openmp -xipo=2 -xprefetch_level=3
                 -m64 -xcode=abs44 -xpagesize=512k -xprefetch=latx:4.8
```

Notes/Tuning Information (Continued)

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                  -Qoption iropt -Apf:l2subblock=256 -xprofile
  317.applu_l:    -fast -xipo=2 -openmp -xautopar -m64
                  -fma=fused -xpagesize=4m -xprefetch=latx:2.8
                  -Qoption iropt -Rloop_dist -xunroll=3 -xprofile
  321.equake_l:   -fast -xopenmp -xprefetch_level=3 -xpagesize=64K
                  -xprefetch=latx:2 -xipo=2 -lmtmalloc
                  -W2,-Apf:l2subblock=256 -m64 -xprofile
  325.apsi_l:     -fast -openmp -m64 -xipo=2 -autopar -fma=fused
                  -xpagesize=4m -xprefetch=latx:3.4
                  -Qoption iropt -Rloop_dist -xprofile
  327.gafort_l:   -fast -openmp -xcode=abs44 -m64 -xipo=2
                  -autopar -fma=fused -xpagesize=512k -xprofile
  329.fma3d_l:    -fast -openmp -autopar -xipo=2 -fma=fused -m64
                  -unroll=6 -xprefetch=latx:4 -xpagesize=4m
                  -xprofile
  331.art_l:      -fast -xopenmp -xipo=2 -xprefetch_level=3 -m64
                  -xprefetch=latx:3 -xprofile

Alternate Source for Base and Peak:
  315.mgrid_l: intel, correct an OpenMP coding standard problem.
  Available as SPEC OMP alternative source:
    ompl2001-mgrid-20071113.tar.gz
  329.fam3d_l: sqrt.init, avoid a potential race condition.
  Available as SPEC OMP alternative source:
    ompl2001-fma3dsqrtinit-20070912.tar.gz

Alternate Source for Peak:
  325.apsi_l: ompl.dd, change initial data distribution for WORK array.
  Available as SPEC OMP alternative source:
    ompl2001-dd-20040128.tar.gz

Feedback optimization (-xprofile) is done as follows,
unless otherwise noted:
  fdo_pre0:  rm -rf ‘pwd‘/feedback.profile
  PASS1:     -xprofile=collect:./feedback
  PASS2:     -xprofile=use:./feedback

Base and Peak User Environment Settings:
  unlimit stacksize   (in /bin/csh)
  setenv SUNW_MP_PROCBIND "  1  2  4  6  8 10 12 14
    16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46
    48 50 52 54 56 58 60 62 64 66 68 70 72 74 76 78
    80 82 84 86 88 90 92 94 96 98 100 102 104 106 108
    110 112 114 116 118 120 122 124 126 "
  setenv SUNW_MP_THR_IDLE SPIN
  setenv OMP_DYNAMIC FALSE

For a description of Sun Studio 12 Compiler flags, portability flags
and system parameters used to generate this result, please refer to
SUN-20080714-Studio-Solaris-sparc.txt file in the flags directory.

This result was measured on Sun SPARC Enterprise M8000.
The Sun SPARC Enterprise M8000 and the Fujitsu SPARC Enterprise
M8000 are electrically equivalent.
"CMU" = CPU/Memory Unit; each holds 2 or 4 CPU chips.
```

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Sun Microsystems
Sun SPARC Enterprise M8000

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Notes/Tuning Information (Continued)