OMPM2001 Result

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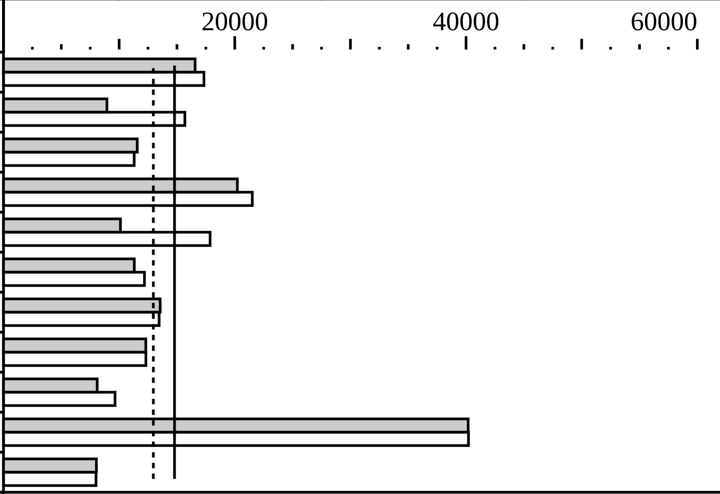
Sun Microsystems
Sun Fire V890 (8 processor)

SPECompMpeak2001 = 14789

SPECompMbase2001 = 12958

SPEC license #: HPG0010	Tested by: Sun Microsystems	Test site: Sun Microsystems	Test date: Aug-2004	Hardware Avail: Sep-2004	Software Avail: Sep-2004

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio
310.wupwise_m	6000	362	16570	346	17334
312.swim_m	6000	671	8944	383	15683
314.mgrid_m	7300	631	11565	646	11301
316.applu_m	4000	198	20222	186	21514
318.galgel_m	5100	504	10116	285	17867
320.equake_m	2600	230	11311	213	12191
324.apsi_m	3400	251	13547	253	13458
326.gafort_m	8700	707	12304	707	12314
328.fma3d_m	4600	568	8100	477	9647
330.art_m	6400	159	40182	159	40210
332.ammp_m	7000	871	8034	875	8001



Hardware

CPU:	Sun UltraSPARC IV
CPU MHz:	1200
FPU:	Integrated
CPU(s) enabled:	16 cores, 8 chips, 2 cores/chip
CPU(s) orderable:	4,8 (order by # of chips)
Primary Cache:	32KBI+64KBD per core on chip (64KBI+128KB on chip)
Secondary Cache:	8MB(I+D) per core off chip (16MB(I+D) off chip)
L3 Cache:	None
Other Cache:	None
Memory:	32GB 8-way interleaved
Disk Subsystem:	1x73GB
Other Hardware:	--

Software

OpenMP Threads:	16
Parallel:	OpenMP + Auto Parallel
Operating System:	Solaris 9 9/04
Compiler:	Sun Studio 9
File System:	ufs with ufs logging
System State:	Multi-User

Notes/Tuning Information

```
Base Flags and Notes:
 ONESTEP=yes for all benchmarks

   C:   -fast -xopenmp -xalias_level=std -xipo=2
        -xprefetch_level=3
        -xprofile -lmtmalloc
   f90: -fast -autopar -openmp -xipo=2
        -xprefetch_level=3 -xprofile


Portability and Extra flags:
 318.galgel_m: -e -fixed
 330.art_m: -DINTS_PER_CACHELINE=16 -DDBLS_PER_CACHELINE=8

Peak Flags and  Notes:
 ONESTEP=yes for all benchmarks

 310.wupwise_m: -fast -openmp -autopar -xipo=2
                -Qoption iropt -Athr,
                -Ainline:inc=800:cp=1 -xprefetch_level=3
                -xunroll=2 -xpagesize=512k -xprofile
 312.swim_m: -fast -xautopar -xreduction
```

Notes/Tuning Information (Continued)

```
             -Qoption iropt -Ainline:cs=700,
             -Atile:skewp:b256 -xpad=common:3022
             -xprefetch=latx:1.6 -lmtmalloc
 314.mgrid_m: -fast -autopar  -xreduction -xipo=2
              -xprefetch_level=3 -xprefetch=latx:2
              -Qoption iropt -Apf:largedim -xpagesize=64k
              -xchip=ultra3 -xarch=v8plusa
 316.applu_m: -fast -openmp -xipo=2
              -Qoption iropt -Aujam:inner=g
              -xunroll=1 -xprefetch=latx:1.8 -xprofile
              srcalt = ompl.32
 318.galgel_m: -fast -xipo=2 -openmp -autopar
               -xlic_lib=sunperf -xarch=v8plusb
               RM_SOURCES=lapak.f90
               STACKSIZE = 16384
 320.equake_m: -fast -xipo=2 -xopenmp -xrestrict
               -xalias_level=strong -xprefetch_level=3
               -W2,-Apf:pdl=1 -Wc,-Qlp-ip=1-ol=1
               -xpagesize=64k
               -xprofile -lmtmalloc -lmopt -lm
               srcalt = ompl.32
 324.apsi_m: -fast -openmp -autopar -xipo=2
             -xpagesize=8k -xprofile
             srcalt = ompl.32
 326.gafort_m: -fast -openmp -xprofile
               srcalt = ompl.32
 328.fma3d_m: -fast -openmp -Qoption iropt -Athr,
              -Apf:pdl=1 -Qoption cg -Qlp-ip=1
              -xipo=2 -xprefetch_level=3 -xprofile
              -lmtmalloc
              srcalt = ompl.32
 330.art_m: -fast -xopenmp -xalias_level=std -xipo=2
            -xprefetch_level=3 -W2,-Apf:outer=0:pdl=1
            -Wc,-Qlp-ip=1 -xprofile -lmtmalloc
            srcalt = ompl.32
 332.ammp_m: -fast -xopenmp -xalias_level=strong
             -xprefetch_level=3 -lmopt -lm -lmtmalloc

Alternate Source:
 330.art_m: ompm-purdue1-20040324.tar

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:
 SUNW_MP_GUIDED_SCHED_WEIGHT=2
 setenv STACKSIZE 2048
 setenv OMP_NUM_THREADS 16
 setenv OMP_DYNAMIC FALSE
 setenv SUNW_MP_PROCBIND "0 8 1 9 2 10 3 11 4 12 5 13
 6 14 7 15

 setenv MPSSSTACK 4M
```

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Notes/Tuning Information (Continued)

```
     setenv MPSSHEAP 4M
     setenv LD_PRELOAD mpss.so.1
     ulimit -s 524288

    Kernel Parameters (/etc/system):
     set autoup=900
     set tune_t_fsflushr=1
```