OMPM2001 Result

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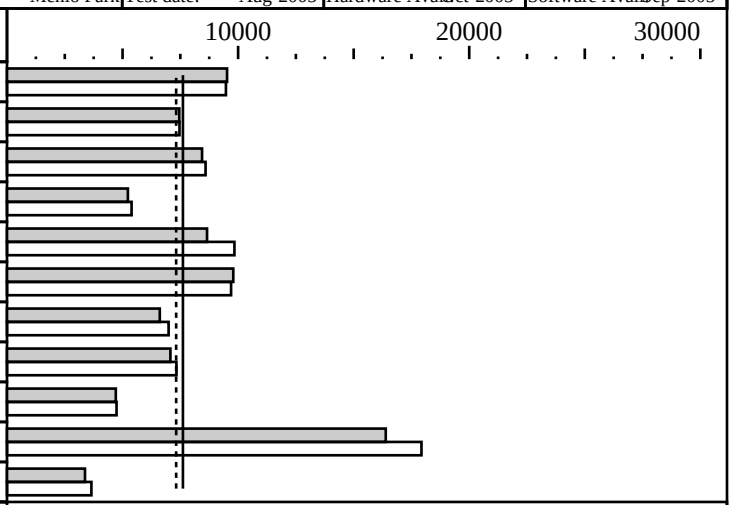
Sun Microsystems
Sun Fire X4200

SPECompMpeak2001 = 7612

SPECompMbase2001 = 7320

SPEC license #: HPG0010 | Tested by: Sun Microsystems, Santa Clara | Test site: Menlo Park | Test date: Aug-2005 | Hardware Avail: Oct-2005 | Software Avail: Sep-2005

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio
310.wupwise_m	6000	630	9521	633	9473
312.swim_m	6000	805	7455	804	7464
314.mgrid_m	7300	865	8440	850	8592
316.applu_m	4000	765	5231	742	5390
318.galgel_m	5100	589	8655	518	9841
320.equake_m	2600	266	9791	268	9696
324.apsi_m	3400	514	6611	486	6992
326.gafort_m	8700	1231	7070	1187	7332
328.fma3d_m	4600	977	4708	970	4740
330.art_m	6400	391	16388	357	17934
332.ammp_m	7000	2074	3374	1917	3652



Hardware

CPU:	AMD Opteron (TM) 254
CPU MHz:	2800
FPU:	Integrated
CPU(s) enabled:	2 cores, 2 chips, 1 core/chip
CPU(s) orderable:	1,2 (order by # of chips)
Primary Cache:	64KBI + 64KBD (on chip) per core
Secondary Cache:	1024KB (I+D) (on chip) per core
L3 Cache:	None
Other Cache:	None
Memory:	16GB (8x2GB, PC3200 CL3 DDR SDRAM ECC Registered)
Disk Subsystem:	SAS, 36GB, 10K RPM
Other Hardware:	None

Software

OpenMP Threads:	2
Parallel:	OpenMP
Operating System:	Solaris 10 3/05 HW1
Compiler:	Sun Studio 10 with Patch-02 patches
File System:	ufs
System State:	Multi-User

Notes/Tuning Information

```
*****************************************************************
*vvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvv*
     This config uses the -xalias_level=strong flag for "base"
     and is in violation of run rule 2.2.4.  It is unacceptable
     as a base flag for future submissions.  This submission was
     accepted prior to this rule clarification and it has been
     established that any variation in performance due to this
     flag was within the range of tolerance for reproducibility.
*^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^*
*****************************************************************
 Compiler Invocation:
   C   : cc
   F90 : f90
   F77 : f90

 Base tuning:
   Fortran : -fast -xipo=2 -xarch=amd64 -xprefetch_level=3 -xvector=simd -xopenmp
   C       : -fast -Xc -xipo=2 -xalias_level=strong -xarch=amd64 -xopenmp
   ONESTEP=yes

 +FDO:  PASS1= -xprofile=collect:./feedback PASS2= -xprofile=use:./feedback

 +MPSS mean setting the following environment variables:
```

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Notes/Tuning Information (Continued)

```
  ENV_MPSSHEAP=2m
  ENV_MPSSSTACK=2m
  ENV_LD_PRELOAD=mpss.so.1


Peak tuning:
 ONESTEP=yes for all peak tests.

 310.wupwise_m   : -fast -xipo=2 -xarch=amd64 -xprefetch_level=3 -xvector=simd -xopenmp
 312.swim_m      : -fast -xipo=2 -xarch=amd64 -xprefetch_level=3 -xvector=simd -xopenmp
 314.mgrid_m     : -fast -xipo=2 -xprefetch_level=3 -xarch=amd64 -xopenmp
 316.applu_m     : -fast -xipo=2 -xprefetch_level=3 -xarch=amd64
                   -Qoption iropt -Aujam:inner=g -xopenmp +MPSS
 318.galgel_m    : -fast -xipo=2 -qoption iropt -xprefetch_level=3 -xvector=simd
                   -xarch=amd64 -xopenmp -xlic_lib=sunperf +FDO +MPSS
                   RM_SOURCES=lapak.f90
 320.equake_m    : -fast -xipo=2 -xalias_level=strong  -xarch=amd64 -xopenmp
 324.apsi_m      : -fast -xipo=2 -xprefetch_level=3  -xopenmp
 326.gafort_m    : -fast -xipo=2 -xarch=amd64 -xprefetch_level=3 -xvector=simd
                 :  -xopenmp +MPSS
 328.fma3d_m     : -fast -xipo=2 -xprefetch_level=3 -xarch=amd64 -xopenmp +FDO +MPSS
 330.art_m       : -fast -xcrossfile -xarch=amd64 -xalias_level=std -xopenmp
                   -lmtmalloc -lm +MPSS
 332.ammp_m      : -fast -xipo=2 -xarch=amd64 -xalias_level=std -xopenmp -lmopt -lm +MPSS

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

Alternate Source:
      330.art_m         : Required srcalt purdue1 used for base and peak
      310.wupwise_m     : Approved srcalt ompl.32 used for peak
      312.swim_m        : Approved srcalt ompl.32 used for peak
      314.mgrid_m       : Approved srcalt ompl    used for peak
      320.equake_m      : Approved srcalt ompl.32 used for peak
      324.apsi_m        : Approved srcalt ompl    used for peak

Base and Peak User Environment:
  export OMP_NUM_THREADS=2
  export SUNW_MP_PROCBIND=TRUE
  export SUNW_MP_THR_IDLE=SPIN
  export OMP_NESTED=FALSE
  export STACKSIZE=16384
  export OMP_DYNAMIC=TRUE
  ulimit -s unlimited

Patch-02 includes the following patches for Sun Studio 10 compiler,
these can be downloaded from (as of 04/21/2005)
http://developers.sun.com/prodtech/cc/downloads/patches/ss10_patches.html
117831-02 C++
117837-02 C
117845-01 Debugger
117846-02 x86/x64 backend (codegen)

For a description of Sun Studio 10 Compiler flags, portability flags
and system parameters used to generate this result, please refer to
```

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Notes/Tuning Information (Continued)

SUN-20050330-Studio-Solaris-opteron.txt file in the flags directory.

Default BIOS settings used.