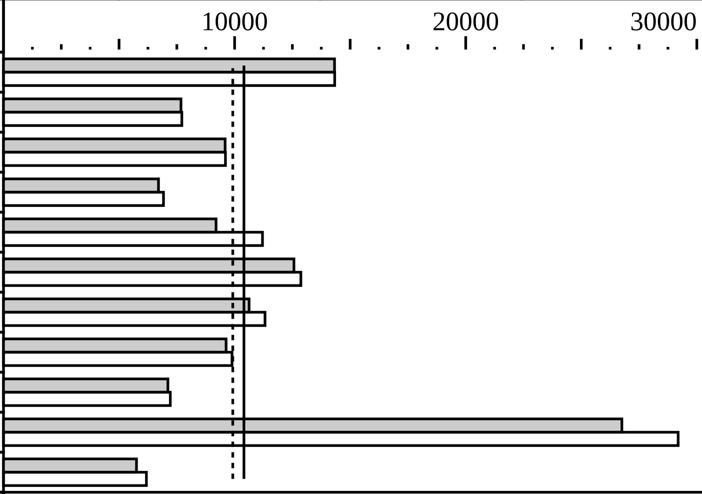
OMPM2001 Result

Sun Microsystems
Sun Fire X4100

SPECompMpeak2001 = 10403
SPECompMbase2001 = 9921

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	419	14323	419	14330
312.swim_m	6000	781	7679	778	7716
314.mgrid_m	7300	761	9589	760	9604
316.applu_m	4000	596	6706	578	6923
318.galgel_m	5100	555	9197	455	11206
320.equake_m	2600	207	12567	202	12867
324.apsi_m	3400	320	10626	300	11315
326.gafort_m	8700	903	9632	880	9888
328.fma3d_m	4600	647	7113	637	7218
330.art_m	6400	239	26756	219	29192
332.ammp_m	7000	1216	5754	1132	6183



Hardware

CPU:	AMD Opteron (TM) 280
CPU MHz:	2400
FPU:	Integrated
CPU(s) enabled:	4 cores, 2 chips, 2 cores/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:	4
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

```
*******************************************************************
*vvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvv*
     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:
```

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=4
    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
```

Notes/Tuning Information (Continued)

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

Default BIOS settings used.

This result was measured on Sun Fire X4200;
Sun Fire X4100 and Sun Fire X4200 are electronically equivalent.
```