# OMPM2001 Result

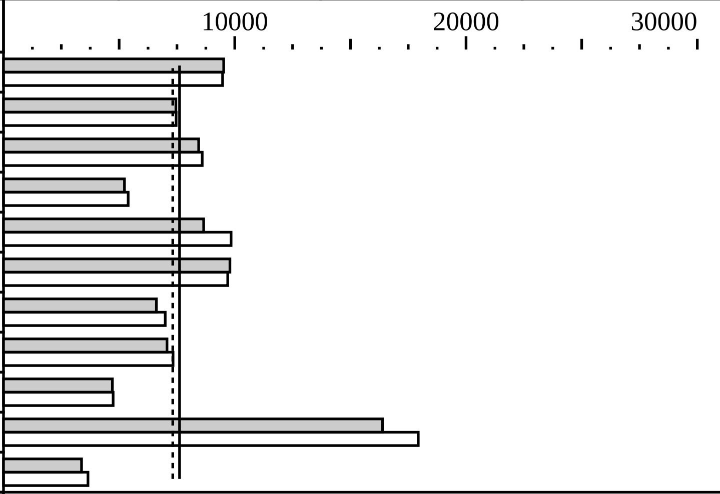


## Sun Microsystems
## Sun Fire X4100

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<br>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:
```

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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.

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