OMPM2001 Result

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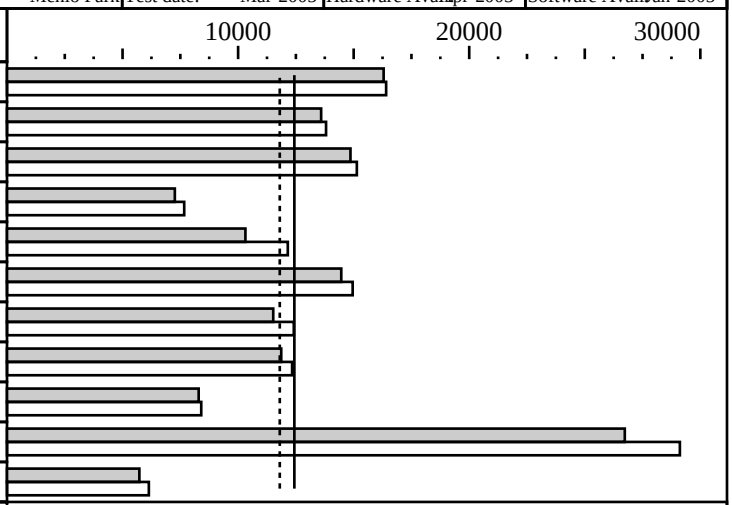
Sun Microsystems
Sun Fire V40z

SPECompMpeak2001 = 12434

SPECompMbase2001 = 11803

SPEC license #: HPG0010 | Tested by: Sun Microsystems, Santa Clara | Test site: Menlo Park | Test date: Mar-2005 | Hardware Avail: Apr-2005 | Software Avail: Jan-2005

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio
310.wupwise_m	6000	368	16297	366	16405
312.swim_m	6000	441	13593	435	13805
314.mgrid_m	7300	491	14862	482	15137
316.applu_m	4000	551	7262	522	7668
318.galgel_m	5100	494	10317	420	12150
320.equake_m	2600	180	14463	174	14956
324.apsi_m	3400	295	11520	274	12409
326.gafort_m	8700	733	11866	705	12337
328.fma3d_m	4600	555	8294	547	8404
330.art_m	6400	239	26731	220	29115
332.ammp_m	7000	1222	5727	1141	6137



Hardware

CPU:	AMD Opteron (TM) 852
CPU MHz:	2600
FPU:	Integrated
CPU(s) enabled:	4 cores, 4 chips, 1 core/chip
CPU(s) orderable:	2,4
Primary Cache:	64KBI + 64KBD on chip
Secondary Cache:	1024KB (I+D) on chip
L3 Cache:	None
Other Cache:	None
Memory:	16GB (8x2GB, PC3200 CL3 DDR SDRAM ECC Registered)
Disk Subsystem:	SCSI, 73GB, 10K RPM
Other Hardware:	None

Software

OpenMP Threads:	4
Parallel:	OpenMP
Operating System:	Solaris 10
Compiler:	Sun Studio 10 with Patch-01 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
```

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Notes/Tuning Information (Continued)

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+MPSS mean setting the following environment variables:
  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-01 includes the following patches for Sun Studio 10 compiler:
  117831-01 C++
  117835-01 Fortran 90
  117837-01 C
  117841-01 Fortran Libraries

For a description of Sun Studio 10 Compiler flags, portability flags
and system parameters used to generate this result, please refer to
SUN-20050330-Studio-Solaris-opteron.txt file in the flags directory.
```

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Notes/Tuning Information (Continued)

Default BIOS settings used.