OMPM2001 Result

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Sun Microsystems

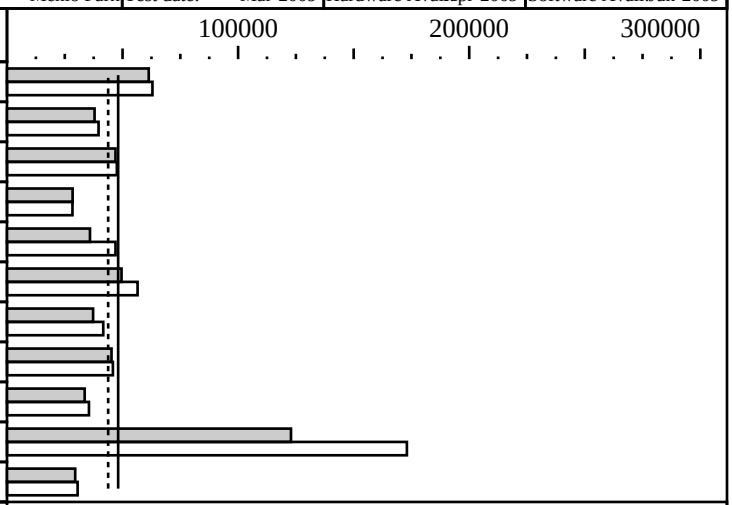
Sun Blade X6275 (Intel Xeon X5570 2.93GHz)

SPECompMpeak2001 = 48097

SPECompMbase2001 = 43777

SPEC license #:HPG0010 | Tested by: Sun Microsystems | Test site: Menlo Park | Test date: Mar-2009 | Hardware Avail:Apr-2009 | Software Avail:Jun-2009

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio
310.wupwise_m	6000	97.8	61335	95.3	62936
312.swim_m	6000	158	37889	151	39620
314.mgrid_m	7300	156	46940	154	47537
316.applu_m	4000	141	28387	141	28326
318.galgel_m	5100	142	35908	109	46950
320.equake_m	2600	52.5	49553	46.0	56502
324.apsi_m	3400	91.3	37254	81.6	41646
326.gafort_m	8700	192	45223	190	45818
328.fma3d_m	4600	137	33614	130	35459
330.art_m	6400	52.1	122878	37.0	173032
332.ammp_m	7000	237	29513	229	30558



Hardware

CPU:	Intel Xeon X5570
CPU MHz:	2926
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 4 cores/chip, 2 threads/core
CPU(s) orderable:	1,2 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core
L3 Cache:	8 MB I+D on chip per chip
Other Cache:	None
Memory:	24 GB (6 x 4 GB DDR3-1333)
Disk Subsystem:	1 x 24 GB, SAS, Sun FlashDisk
Other Hardware:	None

Software

OpenMP Threads:	16
Parallel:	OpenMP and Automatic parallel
Operating System:	OpenSolaris 2008.11
Compiler:	Sun Studio 12 Update 1 (backend build 20090309)
File System:	zfs
System State:	Multi-User

Notes/Tuning Information

```
Compiler Invocation:
  C   : cc
  F90 : f90
  F77 : f90

Base tuning:
  Fortran :  -fast -xtarget=nehalem -xarch=generic  -xautopar -xopenmp
             -xipo=2  -xvector=lib -m64 -aligncommon=16  -fns=no -lmtmalloc
  C       :  -fast -xopenmp -xautopar -xipo=2 -xvector=lib
             -xprefetch -xprefetch_level=3 -m64 -lmtmalloc
  ONESTEP=yes

Peak tuning:
 ONESTEP=yes for all peak tests.

 310.wupwise_m   : -fast -xtarget=nehalem -xarch=generic -xautopar
                   -xopenmp -xipo=2  -xvector=lib -xprefetch
                   -xprefetch_level=3 -m64 -lmtmalloc
                    ENV_SUNW_MP_PROCBIND=8 10 12 14 9 11 13 15
                    ENV_OMP_NUM_THREADS=8
 312.swim_m      : -fast -xmodel=medium -Qoption ube -fsimple=3
                   -xipo=2 -m64 -xvector=simd -xopenmp -lmvec
                    srcalt = ompl.32
```

Notes/Tuning Information (Continued)

```
                    ENV_SUNW_MP_PROCBIND=8 10 12 14 9 11 13 15
                    ENV_OMP_NUM_THREADS=8
  314.mgrid_m     : -fast -xopenmp -xautopar -xipo=2 -xvector=lib
                    -xprefetch -xprefetch_level=3 -m64 -lmtmalloc
                    ENV_SUNW_MP_PROCBIND=8 10 12 14 9 11 13 15
                    ENV_OMP_NUM_THREADS=8
  316.applu_m     : -fast -xopenmp -xautopar -xipo=2 -xvector=lib
                    -xprefetch -xprefetch_level=3 -m64 -xmodel=medium
                    -lmtmalloc
                    srcalt = ompl
                    ENV_SUNW_MP_PROCBIND=8 10 12 14 9 11 13 15
                    ENV_OMP_NUM_THREADS=8
  318.galgel_m    : -O3 -xpagesize=2M -xipo=2 -xvector=simd -m64 -xopenmp
                    -xlic_lib=sunperf +FDO
                    RM_SOURCES=lapak.f90
                    ENV_SUNW_MP_PROCBIND=8 10 12 14 9 11 13 15
                    ENV_OMP_NUM_THREADS=8
  320.equake_m    : -fast -fns=no -xalias_level=layout -xdepend=no
                    -m64 -xopenmp -lmvec
                    srcalt = ompl.32
                    ENV_SUNW_MP_PROCBIND=8 10 12 14 9 11 13 15
                    ENV_OMP_NUM_THREADS=8
  324.apsi_m      : -fast -xipo=2 -m64 -xprefetch_level=3 -xvector
                    -xopenmp -lmtmalloc
                    srcalt = ompl.32
                    ENV_SUNW_MP_PROCBIND=8 10 12 14 9 11 13 15
                    ENV_OMP_NUM_THREADS=8
  326.gafort_m    : -fast -fstore  -aligncommon=8 -xpagesize=2M -m64
                    -xipo=2  -xvector=simd -xopenmp -lmvec
  328.fma3d_m     : -fast -xipo=2 -m64 -xvector=simd -xopenmp
                    srcalt = ompl.32
  330.art_m       : -fast -xipo=2 -m64 -xopenmp
                    ENV_SUNW_MP_PROCBIND=8 10 12 14 9 11 13 15
                    ENV_OMP_NUM_THREADS=8
  332.ammp_m      : -fast -xautopar -xipo=2 -xvector=simd -m64
                    -Wu,-fsimple=3 -xopenmp -xpagesize=2M

Portability flags:
  318.galgel_m   : -e -fixed

Extra art allowed flags:
  330.art_m      : -DINTS_PER_CACHELINE=16 -DDBLS_PER_CACHELINE=8

Base and Peak User Environment:
  export OMP_NUM_THREADS=16
  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

For a description of Sun Studio 12 Update 1 flags, portability flags
and system parameters used to generate this result, please refer to
SUN-20090504-Studio-Solaris-X86_64.txt file in the flags directory.
```

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Notes/Tuning Information (Continued)

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Platform Notes:
  Intel Turbo Boost Technology up to 3.33 GHz
  Default BIOS settings used except:
    Hyper-Threading Technology set to Enabled,
    Intel VT-d: Disabled.  VT-d, if enabled, supports
    remapping of I/O DMA transfers for virtualization.
```