



# OMPM2001 Result

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## Sun Microsystems Sun Blade X6220

SPECompMpeak2001 = 13868

SPECompMbase2001 = 13345

SPEC license #HPG0010 | Tested by: Sun Microsystems, Santa Clara | Test site: Menlo Park | Test date: Jul-2007 | Hardware AvailJun-2007 | Software AvailJun-2007

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio	
310.wupwise_m	6000	320	18772	318	18878	
312.swim_m	6000	531	11304	531	11307	
314.mgrid_m	7300	688	10606	667	10942	
316.applu_m	4000	457	8757	450	8894	
318.galgel_m	5100	465	10964	385	13233	
320.earthquake_m	2600	148	17558	148	17595	
324.apsi_m	3400	232	14638	226	15014	
326.gafort_m	8700	705	12334	681	12779	
328.fma3d_m	4600	499	9227	499	9227	
330.art_m	6400	119	53705	118	54175	
332.ammp_m	7000	994	7042	890	7863	

### Hardware

CPU: AMD Opteron (TM) 2222  
 CPU MHz: 3000  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip  
 CPU(s) orderable: 1,2 (order by number 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, DDR2-667 CL5 ECC Registered)  
 Disk Subsystem: SCSI, 73GB, 10K RPM  
 Other Hardware: None

### Software

OpenMP Threads: 4  
 Parallel: OpenMP  
 Operating System: Solaris 10 11/06  
 Compiler: Sun Studio 12  
 File System: ufs  
 System State: Multi-User

## Notes/Tuning Information

### Compiler Invocation:

C : cc  
 F90 : f90  
 F77 : f90

### Base tuning:

Fortran: -fast -xipo=2 -m64 -xarch=sse2a -xprefetch\_level=3  
 -xvector=simd -xopenmp  
 C: -fast -xipo=2 -m64 -xarch=sse2a -xopenmp  
 ONESTEP=yes

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

### Peak tuning:

ONESTEP=yes for all peak tests.

310.wupwise\_m: -fast -Qoption ube -sched\_first\_pass=1 -xipo=2  
 -xarch=amd64 -xprefetch\_level=3 -xvector=simd -xopenmp -lmvec  
 312.swim\_m: -fast -Qoption ube -fsimple=3 -xipo=2 -m64  
 -xarch=sse2a -xprefetch\_level=3 -xvector=simd -xopenmp -lmvec  
 314.mgrid\_m: -fast -Qoption ube -sched\_first\_pass=1 -xipo=2  
 -xarch=amd64 -xprefetch\_level=3 -xvector=simd -xopenmp -lmvec



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## Notes/Tuning Information (Continued)

```
316.applu_m:  -fast -xipo=2
              -Qoption f90comp -hoist_expensive,-hoist_trivial
              -m64 -xarch=sse2a -xprefetch_level=3 -xvector -xopenmp -lmtmalloc
318.galgel_m: -fast -xpagesize=2m -xipo=2 -qoption iropt
              -xprefetch_level=3 -xvector=simd -xarch=amd64 -xopenmp
              -xlic_lib=sunperf +FDO
              RM_SOURCES=lapak.f90
320.quake_m:  -fast -Wu,-sched_first_pass=1 -xipo=2
              -xarch=amd64 -xopenmp -lmvec
324.apsi_m:   -fast -xipo=2
              -Qoption f90comp -hoist_expensive,-hoist_trivial
              -xarch=amd64a -xprefetch_level=3 -xvector -xopenmp -lmtmalloc
326.gafort_m: -fast -Qoption ube -sched_first_pass=1 -xpagesize=2m
              -xipo=2 -xarch=amd64 -xprefetch_level=3 -xvector=simd -lmvec
328.fma3d_m:  basepeak=yes
330.art_m:    -fast -xpagesize=2m -xipo=2 -xarch=amd64
              -xalias_level=std -xopenmp -lmtmalloc -lm
332.ammp_m:   -fast -Wu,-sched_first_pass=1 -xpagesize=2m -xipo=2 -m64
              -xarch=sse2a -xalias_level=std -xopenmp -lmopt -lm
```

### 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=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
```

For a description of Sun Studio 10 Compiler flags, portability flags and system parameters used to generate this result, please refer to SUN-20070711-Studio-Solaris-opteron.txt file in the flags directory.

Default BIOS settings used.