



# OMPM2001 Result

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Sun Microsystems  
Sun Fire X2250

SPECompMpeak2001 = 17195  
SPECompMbase2001 = 16478

SPEC license #HPG0010 | Tested by: Sun Microsystems | Test site: Menlo Park | Test date: Apr-2009 | Hardware Avail: Apr-2009 | Software Avail: Nov-2008

| Benchmark        | Reference Time | Base Runtime | Base Ratio | Peak Runtime | Peak Ratio |  |
|------------------|----------------|--------------|------------|--------------|------------|--|
| 310.wupwise_m    | 6000           | 313          | 19163      | 312          | 19206      |  |
| 312.swim_m       | 6000           | 629          | 9540       | 628          | 9560       |  |
| 314.mgrid_m      | 7300           | 598          | 12207      | 599          | 12188      |  |
| 316.applu_m      | 4000           | 368          | 10860      | 351          | 11407      |  |
| 318.galgel_m     | 5100           | 310          | 16460      | 263          | 19365      |  |
| 320.earthquake_m | 2600           | 178          | 14590      | 168          | 15462      |  |
| 324.apsi_m       | 3400           | 131          | 25902      | 127          | 26857      |  |
| 326.gafort_m     | 8700           | 513          | 16946      | 509          | 17097      |  |
| 328.fma3d_m      | 4600           | 299          | 15404      | 284          | 16200      |  |
| 330.art_m        | 6400           | 191          | 33583      | 178          | 36029      |  |
| 332.ammp_m       | 7000           | 380          | 18397      | 369          | 18968      |  |

### Hardware

CPU: Intel Xeon X5482  
 CPU MHz: 3200  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip  
 CPU(s) orderable: 1,2 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 12 MB I+D on chip per chip, 6 MB shared / 2 cores  
 L3 Cache: None  
 Other Cache: None  
 Memory: 16 GB (4x4GB Dual-rank PC2-6400 CL5-5-5 FB-DIMMs)  
 Disk Subsystem: 1 x 250 GB SATA 7200 RPM  
 Other Hardware: None

### Software

OpenMP Threads: 8  
 Parallel: OpenMP and Automatic parallel  
 Operating System: OpenSolaris 2008.05  
 Compiler: Sun Studio Express 11/08  
 File System: zfs  
 System State: Multi-User

## Notes/Tuning Information

### Compiler Invocation:

```
C : cc
F90 : f90
F77 : f90
```

### Base tuning:

```
Fortran : -fast -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 -xautopar -xopenmp -xipo=2 -xvector=lib
                -xprefetch -xprefetch_level=3 -m64 -lmtmalloc
312.swim_m : -fast -xmodel=medium -Qoption ube -fsimple=3
             -xipo=2 -m64 -xvector=simd -xopenmp -lmvec
             srcalt = omp1.32
314.mgrid_m : -fast -xopenmp -xautopar -xipo=2 -xvector=lib
              -xprefetch -xprefetch_level=3 -m64 -lmtmalloc
316.applu_m : -fast -xopenmp -xautopar -xipo=2 -xvector=lib -xprefetch
```



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## Notes/Tuning Information (Continued)

```
-xprefetch_level=3 -m64 -xmodel=medium -lmtmalloc
srcalt = ompl
318.galgel_m : -O3 -xpagesize=2M -xipo=2 -xvector=simd -m64 -xopenmp
-xlic_lib=sunperf +FDO
RM_SOURCES=lapak.f90
320.equake_m : -fast -fns=no -xalias_level=layout -xdepend=no
-m64 -xopenmp -lmvec
srcalt = ompl.32
324.apsi_m : -fast -xipo=2 -m64 -xprefetch_level=3 -xvector
-xopenmp -lmtmalloc
srcalt = ompl.32
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
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 10 Compiler 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.

Default BIOS settings used.