# OMPM2001 Result

## Sun Microsystems
### Sun Fire X4600 M2

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</tbody>
</table>

### Hardware
- CPU: AMD Opteron (TM) 8220SE
- CPU MHz: 2800
- FPU: Integrated
- CPU(s) enabled: 8 cores, 4 chips, 2 cores/chip
- CPU(s) orderable: 4,8 (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
- Memory: 16GB (16x1GB, DDR2-667 CL5 ECC Reg)
- Disk Subsystem: SCSI, 73GB, 10K RPM
- Other Hardware: None

### Software
- OpenMP Threads: 8
- Parallel: OpenMP
- Operating System: Solaris 10 6/06
- Compiler: Sun Studio 11 with Patches
- File System: ufs
- System State: Multi-User

### Notes/Tuning Information

```
*vvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvv
```

*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 -xipo=2 -xalias_level=strong -xarch=amd64 -xopenmp
ONESTEP=yes
```

+FD0: PASS1= -xprofile=collect:/feedback PASS2= -xprofile=use:/feedback

Peak tuning:
Sun Microsystems
Sun Fire X4600 M2

SPECompMpeak2001 = 21167
SPECompMbase2001 = 20409

Notes/Tuning Information (Continued)

OSTEP=yes for all peak tests.

310.wupwise_m : -fast -xipo=2 -xarch=amd64 -xprefetch_level=3 -xvector=simd -xopenmp -lmvec
312.swim_m : -fast -xipo=2 -xarch=amd64 -xprefetch_level=3 -xvector=simd -xopenmp -lmvec
314.mgrid_m : -fast -xipo=2 -xarch=amd64 -xprefetch_level=3 -xvector=simd -xopenmp -lmvec
316.applu_m : basepeak=yes
318.galgel_m : -fast -xpagesize=2m -xipo=2 -option iropt -xprefetch_level=3 -xvector=simd -xarch=amd64 -xopenmp -xlic_lib=sunperf +FDO
   RM_SOURCES=lapak.f90
320.equake_m : -fast -xipo=2 -xalias_level=strong -xarch=amd64 -xopenmp -lmvec
324.apsi_m : basepeak=yes
326.gafort_m : -fast -xpagesize=2m -xipo=2 -xarch=amd64 -xprefetch_level=3 -xvector=simd -xopenmp -lmvec
328.fma3d_m : -fast -xpagesize=2m -xipo=2 -xarch=amd64 -xprefetch_level=3 -xvector=simd -xopenmp +FDO
330.art_m : -fast -xpagesize=2m -xipo=2 -xarch=amd64 -xalias_level=std -xopenmp -lmtmalloc -lm
332.ammp_m : -fast -xpagesize=2m -xipo=2 -xarch=amd64 -xalias_level=std -xopenmp -lmopt -lm

Portability flags:
318.galgel_m : -e -fixed

Extra art Base Flags:
330.art_m : Extra Flag: -DINTS_PER_CACHELINE=16 -DDBLS_PER_CACHELINE=8

Base and Peak User Environment:
export OMP_NUM_THREADS=8
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

The following patches were applied to Sun Studio 11 compiler:
120759-07 : x86/x64
121016-03 : x86 C
121020-03 : x86 F90
121018-03 : x86 C++

For a description of Sun Studio 11 Compiler flags, portability flags
and system parameters used to generate this result, please refer to
SUN-20061102-Studio-Solaris-opteron.txt file in the flags directory.

Default BIOS settings used.