



OMPL2001 Result

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Sun Microsystems
Sun Fire X4600 M2

SPECompLpeak2001 = 113423

SPECompLbase2001 = 106552

SPEC license #HPG0010 | Tested by: Sun Microsystems, Santa Clara | Test site: Menlo Park | Test date: Mar-2007 | Hardware Avail: Oct-2006 | Software Avail: Jul-2006

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio
311.wupwise_l	9200	1688	87204	1074	137113
313.swim_l	12500	2464	81181	2469	81007
315.mgrid_l	13500	1555	138864	1557	138741
317.applu_l	13500	3989	54146	3989	54146
321.equake_l	13000	1860	111841	1860	111841
325.apsi_l	10500	2239	75023	2239	75023
327.gafort_l	11000	1661	105935	1637	107544
329.fma3d_l	23500	3717	101163	3661	102714
331.art_l	25000	1081	369869	996	401707

Hardware

CPU: AMD Opteron (TM) 8220
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
Other Cache: None
Memory: 32GB (16x2GB, DDR2-667 CL5 ECC Registered)
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

Compiler Invocation:

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

Base tuning:

```
Fortran : -fast -xarch=amd64 -xprefetch_level=3 -xvector=simd -xopenmp -xmodel=medium
C : -fast -xarch=amd64 -xopenmp -xmodel=medium
ONESTEP=yes
```

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

Peak tuning:

ONESTEP=yes for all peak tests.

```
311.wupwise_l : -fast -xipo=2 -xarch=amd64 -xprefetch_level=3 -xvector=simd -xopenmp -xmodel=medium -lmvec
313.swim_l : -fast -xipo=2 -xarch=amd64 -xprefetch_level=3 -xvector=simd -xopenmp -xmodel=medium -lmvec
315.mgrid_l : -fast -xipo=2 -xarch=amd64 -xprefetch_level=3 -xvector=simd -xopenmp -xmodel=medium -lmvec
317.applu_l : basepeak=yes
321.equake_l : basepeak=yes
325.apsi_l : basepeak=yes
327.gafort_l : -fast -xpagesize=2m -xipo=2 -xarch=amd64 -xprefetch_level=3 -xvector=simd
: -xopenmp -xmodel=medium -lmvec
329.fma3d_l : -fast -xpagesize=2m -xipo=2 -xprefetch_level=3 -xarch=amd64 -xopenmp -xmodel=medium +FDO
331.art_l : -fast -xpagesize=2m -xipo=2 -xarch=amd64 -xalias_level=std -xopenmp -xmodel=medium
-lmtmalloc -lm
```



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Notes/Tuning Information (Continued)

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 10 Compiler flags, portability flags and system parameters used to generate this result, please refer to SUN-20070403-Studio-Solaris-opteron.txt file in the flags directory.

Default BIOS settings used.