



# OMPL2001 Result

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Sun Microsystems  
Sun Fire 6800

SPECompLpeak2001 = 35670

SPECompLbase2001 = 30498

SPEC license #HPG0010 | Tested by: Sun Microsystems, Palo Alto | Test site: Sun Microsystems | Test date: Mar-2003 | Hardware Avail: Mar-2003 | Software Avail: May-2003

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio
311.wupwise_1	9200	3618	40680	3703	39754
313.swim_1	12500	7675	26057	6018	33233
315.mgrid_1	13500	5535	39022	5501	39266
317.applu_1	13500	10528	20517	10597	20384
321.quake_1	13000	9803	21218	8577	24251
325.apsi_1	10500	5158	32568	5128	32760
327.gafort_1	11000	4808	36602	4774	36867
329.fma3d_1	23500	14322	26253	12634	29761
331.art_1	25000	9874	40511	3944	101419

Hardware		Software	
CPU:	UltraSPARC III Cu	OpenMP Threads:	8
CPU MHz:	1200	Parallel:	OpenMP
FPU:	Integrated	Operating System:	Solaris 9 12/02
CPU(s) enabled:	24	Compiler:	Sun ONE Studio 8 (pre-FCS build 3/9) Sun Performance Library 8 (pre-FCS build 3/9)
CPU(s) orderable:	2-24	File System:	ufs with ufs logging
Primary Cache:	32KBI+64KBD on chip	System State:	Multi-User
Secondary Cache:	8MB(I+D) off chip		
L3 Cache:	None		
Other Cache:	None		
Memory:	48GB 16-way interleaved		
Disk Subsystem:	1X36GB 550GB (4 9X18GB Sun StorEdge T3 arrays)		
Other Hardware:	--		

## Notes/Tuning Information

### Base Flags:

ONESTEP=yes for all benchmarks

```
C: -fast -xopenmp -xalias_level=std -xipo -xprefetch_level=2
-xc -xarch=v9a -xprofile -lmtmalloc
f90: -fast -openmp -xarch=v9a -xipo -autopar -xprofile
```

### Extra art Base Flags:

331.art\_1: -DINTS\_PER\_CACHELINE=16 -DBLS\_PER\_CACHELINE=8

### Peak Flags:

ONESTEP=yes for all benchmarks

```
311.wupwise_1: -xprofile -fast -openmp -autopar -Qoption iropt
-Athr,-Ainline:inc=800:cp=1 -xipo=2 -xprefetch_level=3
-xarch=v9a -xpagesize=512k
313.swim_1: -fast -xautopar -xreduction -Qoption iropt
-Ainline:cs=700,-Atile:skewp:b72 -xarch=v9a
-xprefetch=latx:1.6
315.mgrid_1: -xprofile -fast -openmp -xarch=v9a -xipo -autopar
-xpagesize=512k
317.applu_1: -xprofile -fast -openmp -xipo=2 -Qoption iropt
-Aujam:inner=g -Qoption cg -Qlp-ol=1 -xarch=v9a
321.quake_1: -xprofile -fast -xarch=v9a -xrestrict
```



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## Notes/Tuning Information (Continued)

```

-xalias_level=strong -xopenmp
-W2,-Ainline:call_in_pragma -xprefetch_level=3
-lmtmalloc -lmopt -lm
325.apsi_1: -fast -autopar -openmp -xipo -xarch=v9a
327.gafort_1: -xprofile -fast -xarch=v9a -openmp
329.fma3d_1: -xprofile -fast -xarch=v9a -openmp -Qoption iropt
-Athr,-Apf:pdl=1 -xipo -lmtmalloc -xpagesize=512k
331.art_1: -xprofile -fast -xarch=v9a -xopenmp
-xalias_level=strong -xprefetch_level=2 -xipo=2
-lmopt -lm -lmtmalloc -xpagesize=512k
-W2,-Apf:outer=0

```

### Alternate Source for Peak:

```

Change abs to fabs for art
Available as SPEC OMP Source: omp12001-fabs-20030401.tar.gz
331.art_1

```

### Feedback is done as follows, unless otherwise noted:

```

fdo_pre0: rm -rf ./feedback.profile ./SunWS_cache
PASS1: -xprofile=collect:./feedback
PASS2: -xprofile=use:./feedback

```

### Base and Peak User Environment:

```

unlimit stacksize (in /bin/csh)
setenv STACKSIZE 16384
setenv OMP_DYNAMIC TRUE
setenv MT_BIND_PROCESSOR FALSE
setenv MPSSSTACK 4M
setenv MPSSHEAP 4M
setenv LD_PRELOAD mpss.so.1

```

### Kernel Parameters (/etc/system):

```

set autoup=900
set tune_t_fsflushr=1
set shmsys:shminfo_shmmax=0xffffffffffffffff
set shmsys:shminfo_shmseg=512
set segvn_comb_thrshld=-1

```

Sun ONE Studio 8 (FCS) will ship May 2003

System configuration details located (as of Mar 2003) at  
<http://www.sun.com/servers/midrange/sunfire6800>