



OMPL2001 Result

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Sun Microsystems
Sun Fire 6800

SPECompLpeak2001 = 62523

SPECompLbase2001 = 53397

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	2064	71325	2072	71048
313.swim_1	12500	5580	35844	4011	49865
315.mgrid_1	13500	3872	55784	3835	56321
317.applu_1	13500	3758	57483	3814	56636
321.quake_1	13000	5787	35942	5419	38381
325.apsi_1	10500	2902	57886	2871	58510
327.gafort_1	11000	2971	59249	2970	59259
329.fma3d_1	23500	7804	48179	7005	53675
331.art_1	25000	5518	72487	2211	180882

Hardware		Software	
CPU:	UltraSPARC III Cu	OpenMP Threads:	16
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:b144 -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 FALSE
setenv MT_BIND_PROCESSOR TRUE
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>