



OMP2001 Result

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Sun Microsystems
Sun Fire 6800

SPECompMpeak2001 = 8806

SPECompMbase2001 = 8309

SPEC license #HPG0010 | Tested by: Sun Microsystems, Palo Alto | Test site: Beaverton | Test date: Dec-2001 | Hardware Avail: Nov-2001 | Software Avail: Feb-2002

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio	
310.wupwise_m	6000	577	10390	574	10458	
312.swim_m	6000	853	7034	853	7034	
314.mgrid_m	7300	812	8986	796	9167	
316.applu_m	4000	256	15618	256	15618	
318.galgel_m	5100	592	8609	468	10903	
320.earthquake_m	2600	398	6527	351	7414	
324.apsi_m	3400	348	9768	342	9936	
326.gafort_m	8700	1101	7903	1002	8680	
328.fma3d_m	4600	729	6311	702	6556	
330.art_m	6400	758	8438	688	9309	
332.ammp_m	7000	1274	5496	1270	5511	

Hardware

CPU: UltraSPARC III Cu
 CPU MHz: 900
 FPU: Integrated
 CPU(s) enabled: 24
 CPU(s) orderable: 2-24
 Primary Cache: 32KBI+64KBD on chip
 Secondary Cache: 8MB(I+D) off chip
 L3 Cache: None
 Other Cache: None
 Memory: 48GB
 Disk Subsystem: 1X18GB (SCSI, internal)
 550GB (4 9X18GB Sun StorEdge T3 arrays, external)
 Other Hardware: --

Software

OpenMP Threads: 16
 Parallel: --
 Operating System: Solaris 8 2/02
 ptmalloc: publically available malloc implementation
 Compiler: Forte Developer 7 EA2 (Early Access 2)
 File System: UFS
 System State: Multi User

Notes/Tuning Information

Other Software:

ptmalloc: publically available malloc implementation
 Available as SPEC OMP2001 Source: omp2001-ptmalloc-20020206.tar.gz
 or at www.malloc.de/en/index.html (as of Dec 2001)
 Based on GNU C library, ptmalloc

Base flags:

Base C flags: -fast -xopenmp -xalias_level=std -xipo
 -xprefetch_level=3 -xprofile -lmtmalloc
 Base f90 flags: -fast -autopar -openmp -xipo
 -xprefetch_level=3 -xprofile

Portability and Extra flags:

Extra Base C flags: -Xc
 318.galgel_m portability flags: -e -fixed
 330.art_m extra flags: -DINTS_PER_CACHELINE=16 -DDBLS_PER_CACHELINE=8

Peak flags:

310.wupwise: -fast -openmp -Qoption iropt -Ainline:call_in_pragma
 -Qoption iropt -Athr -xipo



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Notes/Tuning Information (Continued)

```

312.swim: basepeak = yes
314.mgrid: -fast -xarch=v9b -openmp -xprefetch_level=3
           -Qoption iropt -Apf:const,-Apf:largedim -xprofile
316.applu: basepeak=yes
318.galgel: -fast -Qoption iropt -whole,-Apf:const -openmp
           -autopar -xipo -xlic_lib=sunperf -xprofile
           RM_SOURCES=lapak.f90;srcalt=eigQR
320.quake: -fast -xrestrict -xalias_level=strong
           -xopenmp -W2,-Ainline:call_in_pragma -xprofile
           -xprefetch_level=3 -xprofile -lmtmalloc -lmopt -lm
324.apsi: -fast -autopar -openmp -xipo -xprofile
326.gafort: -fast -openmp -Qoption iropt -Ainline:call_in_pragma
           -xprofile
328.fma3d: -fast -openmp -Qoption iropt -Athr -xipo
           -xprofile -lmtmalloc
330.art: -fast -xopenmp -xalias_level=strong
          -xprefetch_level=2 -xprofile -lmopt -lm -lptmalloc
332.ammp: -fast -xopenmp -xalias_level=strong
          -xprefetch_level=3 -lmopt -lm -lmtmalloc

```

Peak sources:

```

318.galgel: eigQR.f90 (for portability to lapack version 3)
           Available as SPEC OMP2001 Source: omp2001-galgel-20020117.tar.gz

```

The following user environment was used for base runs:

```

unlimit stacksize (in /bin/csh)
setenv STACKSIZE 2048
setenv OMP_DYNAMIC FALSE
setenv MT_BIND_PROCESSOR TRUE

```

The user environment for peak runs was same as for base:

```

exceptions/additions noted below:
318.galgel: STACKSIZE=4096
330.art: limit stacksize 8m (in /bin/csh)

```

Kernel Paramters (/etc/system):

```

set autoup=900
set tune_t_fsflushr=1
set shmsys:shminfo_shmmax=0xffffffffffffffff
set shmsys:shminfo_shmseg=512
set shmsys:shminfo_shmmni=4096

```

ONESTEP=yes for all benchmarks in base and peak

Forte Developer 7 (final) will ship May, 2002

System configuration details located (as of Dec 2001) at
<http://www.sun.com/servers/midrange/sunfire6800>