OMPL2001 Result

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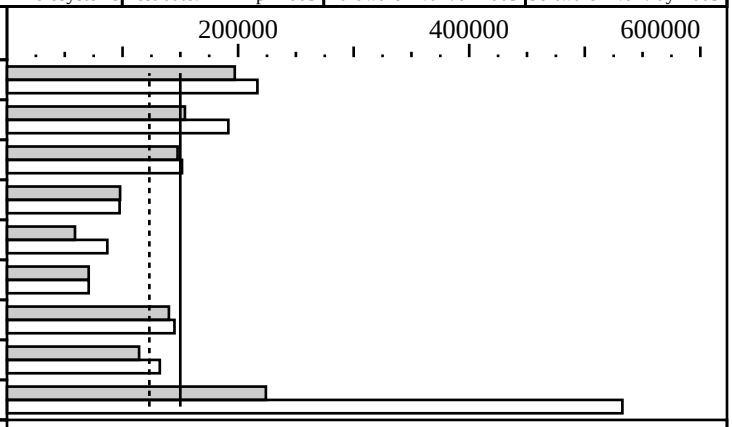
Sun Microsystems
Sun Fire 15K

SPECompLpeak2001 = 149975

SPECompLbase2001 = 123214

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio
311.wupwise_l	9200	747	197121	679	216710
313.swim_l	12500	1299	153967	1044	191559
315.mgrid_l	13500	1463	147617	1426	151458
317.applu_l	13500	2207	97864	2216	97451
321.equake_l	13000	3535	58842	2396	86824
325.apsi_l	10500	2376	70700	2376	70700
327.gafort_l	11000	1256	140116	1214	144934
329.fma3d_l	23500	3289	114321	2844	132225
331.art_l	25000	1785	224032	751	532548



Hardware

CPU:	UltraSPARC III Cu
CPU MHz:	1200
FPU:	Integrated
CPU(s) enabled:	72
CPU(s) orderable:	2-106
Primary Cache:	32KBI+64KBD on chip
Secondary Cache:	8MB(I+D) off chip
L3 Cache:	None
Other Cache:	None
Memory:	576GB 16-way interleaved
Disk Subsystem:	1X36GB 550GB (4 9X18GB Sun StorEdge T3 arrays)
Other Hardware:	--

Software

OpenMP Threads:	48
Parallel:	OpenMP
Operating System:	Solaris 9 12/02
Compiler:	Sun ONE Studio 8 (pre-FCS build 3/9)
File System:	ufs with ufs logging
System State:	Multi-User

Notes/Tuning Information

```
Base Flags:
  ONESTEP=yes for all benchmarks

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

Extra art Base Flags:
  331.art_l:     -DINTS_PER_CACHELINE=16 -DDBLS_PER_CACHELINE=8

Peak Flags:
  ONESTEP=yes for all benchmarks

  311.wupwise_l: -fast -openmp -autopar -Qoption iropt
                 -Athr,-Ainline:inc=800:cp=1 -xipo=2
                 -xprefetch_level=3 -xarch=v9a -xpagesize=512k -xprofile
  313.swim_l:    -fast -openmp -xarch=v9a -xipo -autopar
                 -xpagesize=512k -xprofile
  315.mgrid_l:   -fast -openmp -xarch=v9a -xipo -autopar
                 -xpagesize=512k -xprofile
  317.applu_l:   -fast -openmp -xipo=2 -Qoption iropt
                 -Aujam:inner=g -Qoption cg -Qlp-ol=1 -xarch=v9a -xprofile
  321.equake_l:  -fast -xarch=v9a -xrestrict -xalias_level=strong
                 -xopenmp -W2,-Ainline:call_in_pragma -xprefetch_level=3
```

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Notes/Tuning Information (Continued)

```
                  -xpagesize=64k -lmtmalloc -lmopt -lm -xprofile
    325.apsi_l:   basepeak=yes
    327.gafort_l: -fast -xarch=v9a -openmp -xprofile
    329.fma3d_l:  -fast -xarch=v9a -openmp -Qoption iropt -Athr,-Apf:pdl=1
                  -xipo -xpagesize=512k -lmtmalloc -xprofile
    331.art_l:    -fast -xarch=v9a -xopenmp
                  -xalias_level=strong -xprefetch_level=2
                  -xipo=2 -xpagesize=512k -W2,-Apf:outer=0
                  -lmopt -lm -lmtmalloc -xprofile

  Alternate Source for Peak:
    Change abs to fabs for art
      Available as SPEC OMP Source: ompl2001-fabs-20030401.tar.gz
      331.art_l

  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 MPSSTACK 4M
    setenv MPSSHEAP 4M
    setenv LD_PRELOAD mpss.so.1

  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
    set segvn_comb_thrshld=-1

  Sun ONE Studio 8 (final) will ship May 2003

  System configuration details located (as of Apr 2003) at
    http://www.sun.com/servers/highend/sunfire15k
```