OMPL2001 Result

Copyright 1999-2008, Standard Performance Evaluation Corporation

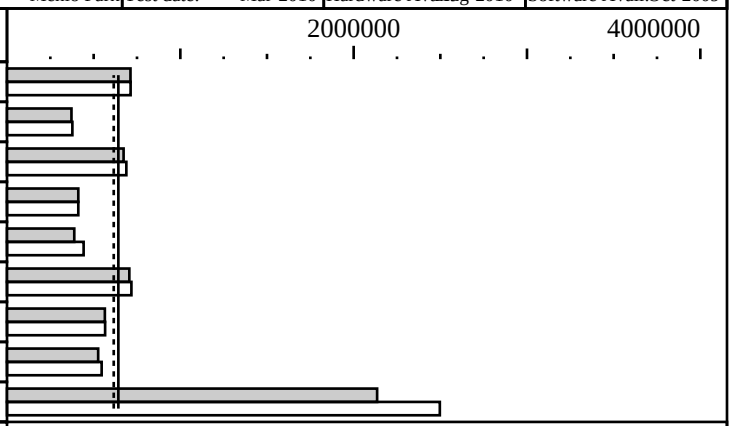
Oracle Corporation
Sun Fire X4470

SPECompLpeak2001 = 642479

SPECompLbase2001 = 615790

SPEC license #: HPG0010 | Tested by: Oracle Corporation | Test site: Menlo Park | Test date: Mar-2010 | Hardware Avail: Aug-2010 | Software Avail: Oct-2009

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio
311.wupwise_l	9200	207	712374	206	713090
313.swim_l	12500	538	371887	530	377136
315.mgrid_l	13500	321	672651	314	688513
317.applu_l	13500	525	411363	525	411363
321.equake_l	13000	536	388097	471	442080
325.apsi_l	10500	238	705754	234	717727
327.gafort_l	11000	312	564564	311	566032
329.fma3d_l	23500	715	526010	689	546035
331.art_l	25000	187	2135306	160	2497053



Hardware

CPU:	Intel Xeon X7560
CPU MHz:	2266
FPU:	Integrated
CPU(s) enabled:	32 cores, 4 chips, 8 cores/chip, 2 threads/core
CPU(s) orderable:	2,4 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core
L3 Cache:	24 MB I+D on chip per chip
Other Cache:	None
Memory:	256 GB (64x4GB, DDR3-1066MHz, CL7, 2 Rank, ECC Reg)
Disk Subsystem:	1 x 500 GB, SATA, 7200 RPM
Other Hardware:	None

Software

OpenMP Threads:	64
Parallel:	OpenMP and Automatic parallel
Operating System:	Oracle Solaris 10 10/09
Compiler:	Oracle Solaris Studio 12 Update 1
File System:	zfs
System State:	Multi-User

Notes/Tuning Information

```
Compiler Invocation:
  C   : cc
  F90 : f90
  F77 : f90

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

Base tuning:
  Fortran :  -fast -xtarget=nehalem -xarch=generic -xipo=2 -xopenmp
             -xpagesize=2M -xmodel=medium -xautopar -xvector=lib -m64
             -lmtmalloc +FDO
  C       :  -fast -m64 -xmodel=medium -fns=no -xdepend=no -m64 -xopenmp
             -lmvec +FDO
  ONESTEP=yes

Peak tuning:
  ONESTEP=yes for all peak tests.

  311.wupwise_l: -fast -xtarget=nehalem -xarch=generic -xipo=2 -xopenmp
                 -xpagesize=2M -xmodel=medium -xautopar -xvector=lib -m64
                 -lmtmalloc +FDO

  313.swim_l   : -fast -xpagesize=2M -xmodel=medium -xopenmp -xautopar
                 -xipo=2 -xvector=lib -xprefetch -xprefetch_level=3 -m64
                 -lmtmalloc +FDO
```

Notes/Tuning Information (Continued)

```
                    SUNW_MP_PROCBIND= 0  1  2  3  4  5  6  7  8  9 10 11
                                      12 13 14 15 16 17 18 19 20 21 22 23
                                      24 25 26 27 28 29 30 31
                    OMP_NUM_THREADS=32

    315.mgrid_l  : -fast  -xtarget=nehalem -xarch=generic  -xpagesize=2M
                   -xmodel=medium -xopenmp -xautopar -xipo=2 -xvector=lib
                   -xprefetch -xprefetch_level=3 -m64 -lmtmalloc +FDO
                    SUNW_MP_PROCBIND= 0  1  2  3  4  5  6  7  8  9 10 11
                                      12 13 14 15 16 17 18 19 20 21 22 23
                                      24 25 26 27 28 29 30 31
                    OMP_NUM_THREADS=32

    317.applu_l  : basepeak=yes

    321.equake_l : -fast -xmodel=medium -fns=no -xalias_level=layout -m64
                   -xdepend=no -xopenmp -lmvec +FDO
                    SUNW_MP_PROCBIND= 0  1  2  3  4  5  6  7  8  9 10 11
                                      12 13 14 15 16 17 18 19 20 21 22 23
                                      24 25 26 27 28 29 30 31
                    OMP_NUM_THREADS=32

    325.apsi_l   : -fast -xpagesize=2M -xmodel=medium -xopenmp -xautopar
                   -xipo=2 -xvector=lib -xprefetch -xprefetch_level=3 -m64
                   -lmtmalloc +FDO

    327.gafort_l : -fast -xmodel=medium -fstore -xpagesize=2M -xipo=2 -m64
                   -xvector=simd -xopenmp -lmvec +FDO

    329.fma3d_l  : -fast -xpagesize=2M -xmodel=medium -xopenmp -xautopar
                   -xipo=2 -xvector=lib -xprefetch -xprefetch_level=3  -m64

    331.art_l    : -fast -xpagesize=2M -xmodel=medium -xopenmp -xautopar
                   -xipo=2 -xvector=lib -xprefetch -xprefetch_level=3 -m64
                   -lmtmalloc
                    SUNW_MP_PROCBIND= 0  1  2  3  4  5  6  7  8  9 10 11
                                      12 13 14 15 16 17 18 19 20 21 22 23
                                      24 25 26 27 28 29 30 31
                    OMP_NUM_THREADS=32

  Extra art allowed flags:
    331.art_l         : -DINTS_PER_CACHELINE=16 -DDBLS_PER_CACHELINE=8

  Base and Peak User Environment:
    export OMP_NUM_THREADS=64
    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

  /etc/system parameters:
    tune_t_fsflushr=10
    autoup=900
```

Copyright 1999-2008, Standard Performance Evaluation Corporation

Notes/Tuning Information (Continued)

```
    zfs:zfs_arc_max = 0x10000000
    lpg_alloc_prefer=1

  For a description of Oracle Solaris Studio 12 Update 1 f
  flags and system parameters used to generate this result
  Oracle-20100708-Studio-Solaris-x86.txt file in the flags

  Default BIOS settings used.
    Intel Turbo Boost technology enabled, maximum 2.66 GHz (default)
    Intel Hyper-Threading technology enabled (default)
```