OMPM2001 Result

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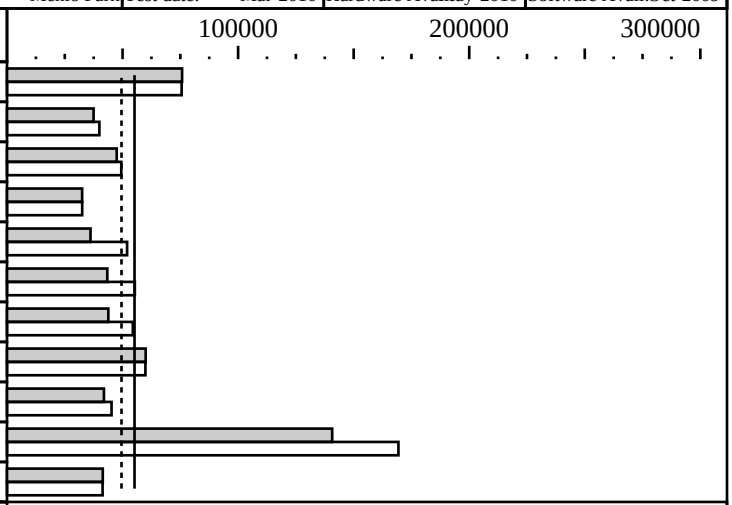
Oracle Corporation
Sun Fire X2270 M2

SPECompMpeak2001 = 55178

SPECompMbase2001 = 49548

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio
310.wupwise_m	6000	79.2	75760	79.4	75561
312.swim_m	6000	160	37460	150	39970
314.mgrid_m	7300	154	47476	148	49447
316.applu_m	4000	123	32510	123	32534
318.galgel_m	5100	141	36131	98.1	51969
320.equake_m	2600	59.9	43395	47.0	55313
324.apsi_m	3400	77.5	43843	62.4	54453
326.gafort_m	8700	145	60002	145	59897
328.fma3d_m	4600	110	41942	102	45235
330.art_m	6400	45.5	140702	37.8	169372
332.ammp_m	7000	169	41441	169	41364



Hardware

CPU:	Intel Xeon X5670
CPU MHz:	2933
FPU:	Integrated
CPU(s) enabled:	12 cores, 2 chips, 6 cores/chip, 2 threads/core
CPU(s) orderable:	1,2 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:	12 MB I+D on chip per chip
Other Cache:	None
Memory:	24 GB (6 x 4 GB DDR3-1333 CL9, 2 Rank, ECC)
Disk Subsystem:	1 x 1 TB, SATA, 7200 RPM
Other Hardware:	None

Software

OpenMP Threads:	24
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
             -xautopar -xvector=lib -m64 -lmtmalloc +FDO
  C       :  -fast -xtarget=nehalem -fns=no -xdepend=no  -m64 -xopenmp
             -lmvec +FDO
  ONESTEP=yes

Peak tuning:
  ONESTEP=yes for all peak tests.

  310.wupwise_m  : -fast -xtarget=nehalem -xarch=generic -xautopar -xopenmp
                   -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
                    OMP_NUM_THREADS=12
```

Notes/Tuning Information (Continued)

```
    312.swim_m     : -fast -xtarget=nehalem -xmodel=medium
                     -Qoption ube -fsimple=3 -xipo=2 -m64 -xvector=simd
                     -xopenmp -lmvec +FDO
                      srcalt = ompl.32
                      SUNW_MP_PROCBIND=0 1 2 3 4 5 6 7 8 9 10 11
                      OMP_NUM_THREADS=12
    314.mgrid_m    : -fast -xtarget=nehalem -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
                      OMP_NUM_THREADS=12
    316.applu_m    : -fast -xtarget=nehalem -xarch=generic -xipo=2
                     -xmodel=medium  -xopenmp  -xautopar -xvector=lib
                     -m64 -aligncommon=16 -fns=no -lmtmalloc +FDO
                      SUNW_MP_PROCBIND=0 1 2 3 4 5 6 7 8 9 10 11
                      OMP_NUM_THREADS=12
    318.galgel_m   : -O3   -xtarget=nehalem -xpagesize=2M -xipo=2
                     -xvector=simd -m64 -xopenmp -xlic_lib=sunperf  +FDO
                      RM_SOURCES=lapak.f90
                      SUNW_MP_PROCBIND=0 1 2 3 4 5 6 7 8 9 10 11
                      OMP_NUM_THREADS=12
    320.equake_m   : -fast -xtarget=nehalem -fns=no -xalias_level=layout
                     -xdepend=no  -m64 -xopenmp -lmvec +FDO
                      srcalt = ompl.32
                      SUNW_MP_PROCBIND=0 1 2 3 4 5 6 7 8 9 10 11
                      OMP_NUM_THREADS=12
    324.apsi_m     : -fast -xtarget=nehalem -xipo=2 -m64 -xprefetch_level=3
                     -xvector -xopenmp -lmtmalloc +FDO
                      srcalt = ompl.32
                      SUNW_MP_PROCBIND=0 1 2 3 4 5 6 7 8 9 10 11
                      OMP_NUM_THREADS=12
    326.gafort_m   : -fast -xtarget=nehalem -xarch=generic -xipo=2  -xopenmp
                     -xautopar -xvector=lib -m64 -aligncommon=16 -fns=no
                     -lmtmalloc +FDO
    328.fma3d_m    : -fast -xtarget=nehalem -xipo=2 -m64 -xvector=simd
                     -xopenmp +FDO
                      srcalt = ompl.32
    330.art_m      : -fast -xtarget=nehalem -xipo=2 -m64 -xopenmp +FDO
                      SUNW_MP_PROCBIND=0 1 2 3 4 5 6 7 8 9 10 11
                      OMP_NUM_THREADS=12
    332.ammp_m     : -fast -xtarget=nehalem -fns=no -xdepend=no  -m64

  Portablility flags:
    318.galgel_m      : -e -fixed

  Extra art allowed flags:
    330.art_m         : -DINTS_PER_CACHELINE=16 -DDBLS_PER_CACHELINE=8

  Base and Peak User Environment:
    export OMP_NUM_THREADS=24
    export SUNW_MP_PROCBIND=TRUE
    export SUNW_MP_THR_IDLE=SPIN
    export OMP_NESTED=FALSE
    export STACKSIZE=16384
    export OMP_DYNAMIC=TRUE
```

Notes/Tuning Information (Continued)

```
    ulimit -s unlimited

  /etc/system parameters:
    tune_t_fsflushr=10
    autoup=900
    zfs:zfs_arc_max = 0x10000000
    lpg_alloc_prefer=1

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

  Default BIOS settings used.
    Intel Turbo Boost technology enabled, maximum 3.33 GHz(default)
    Intel Hyper-Threading technology enabled (default)
```