OMPM2001 Result

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Oracle Corporation

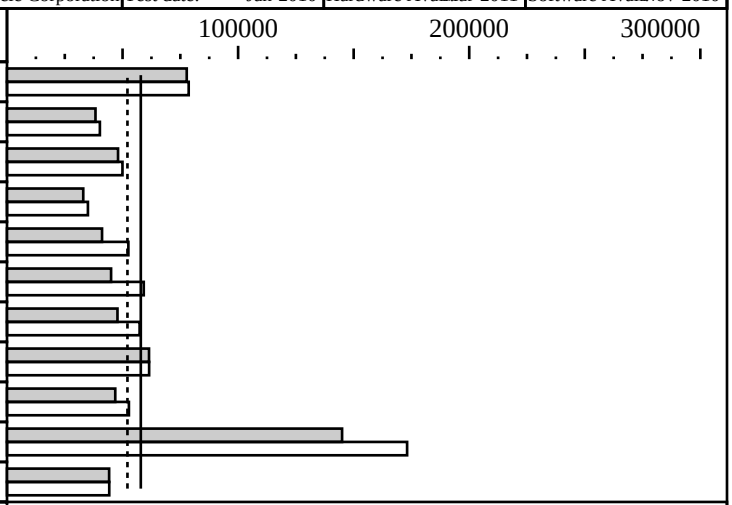
Sun Blade X6270 M2 (Intel Xeon X5690 3.46 GHz)

SPECompMpeak2001 = 57894

SPECompMbase2001 = 52118

SPEC license #:	HPG0010	Tested by:	Oracle Corporation	Test site:	Oracle Corporation	Test date:	Jan-2010	Hardware Avail:	Mar-2011	Software Avail:	Nov-2010

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio
310.wupwise_m	6000	77.1	77773	76.3	78618
312.swim_m	6000	157	38286	149	40189
314.mgrid_m	7300	152	48047	146	49962
316.applu_m	4000	121	32993	114	35015
318.galgel_m	5100	124	41124	97.1	52516
320.equake_m	2600	57.7	45036	43.9	59170
324.apsi_m	3400	71.1	47801	59.3	57382
326.gafort_m	8700	142	61450	141	61499
328.fma3d_m	4600	98.2	46842	87.2	52748
330.art_m	6400	44.1	144988	37.0	173125
332.ammp_m	7000	158	44191	158	44241



Hardware

CPU:	Intel Xeon X5690
CPU MHz:	3467
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:	48 GB (12 x 4 GB 2Rx4 PC3-10600R-9, ECC)
Disk Subsystem:	1 x 300 GB 10000 RPM SAS2
Other Hardware:	Sun Blade 6000 Chassis

Software

OpenMP Threads:	24
Parallel:	OpenMP and Automatic parallel
Operating System:	Oracle Solaris 10 9/10
Compiler:	Oracle Solaris Studio 12.2
File System:	ufs
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=1 -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
                 ENV_SUNW_MP_PROCBIND=0 1 2 3 4 5 6 7 8 9 10 11
                 ENV_OMP_NUM_THREADS=12
  312.swim_m:    -fast -xtarget=nehalem -xmodel=medium -Qoption ube -fsimple=3 -xipo=2 -m64
                 -xvector=simd -xopenmp -lmvec +FDO
```

Notes/Tuning Information (Continued)

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

  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
    ulimit -s unlimited

  Load Default BIOS Settings and then change the following
     Hardware Prefetch Enabled
     Adjacent Cache Line Prefetch Enabled
     L1 Data Prefetch Enabled

  Intel Turbo Boost Technology up to 3.73 GHz was enabled.
```

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Notes/Tuning Information (Continued)

For a description of Oracle Solaris Studio 12.2 flags, portability flags and system parameters used to generate this result, please refer to Oracle-20110301-Studio-Solaris-x86.txt file in the flags directory.