



OMPL2001 Result

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Oracle Corporation
Sun Blade X6270 M2 (Intel Xeon X5680 3.33GHz)

SPECompLpeak2001 = 291062
SPECompLbase2001 = 275373

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio
311.wupwise_l	9200	400	367787	400	367898
313.swim_l	12500	1319	151580	1285	155604
315.mgrid_l	13500	840	257028	789	273715
317.applu_l	13500	1676	128906	1676	128906
321.quake_l	13000	1253	165951	969	214654
325.apsi_l	10500	478	351138	478	351772
327.gafort_l	11000	546	322168	546	322302
329.fma3d_l	23500	1287	292230	1252	300420
331.art_l	25000	445	898544	394	1015213

Hardware		Software	
CPU:	Intel Xeon X5680	OpenMP Threads:	24
CPU MHz:	3333	Parallel:	OpenMP and Automatic parallel
FPU:	Integrated	Operating System:	Oracle Solaris 10 10/09
CPU(s) enabled:	12 cores, 2 chips, 6 cores/chip, 2 threads/core	Compiler:	Oracle Solaris Studio 12 Update 1
CPU(s) orderable:	1,2 chips	File System:	zfs
Primary Cache:	32 KB I + 32 KB D on chip per core	System State:	Multi-User
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 DDR3-1333 CL9, 2 Rank, ECC)		
Disk Subsystem:	1 x 300 GB, SAS, 10000 RPM		
Other Hardware:	None		

Notes/Tuning Information

Compiler Invocation:

```
C : cc
F90 : f90
F77 : f90
```

Feedback Directed Optimization:

For those benchmarks which use feedback directed optimization, the following are set and labeled below with the +FDO designation.

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

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
```



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Notes/Tuning Information (Continued)

313.swim_1 : -fast -xtarget=nehalem -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
OMP_NUM_THREADS=12

315.mgrid_1 : -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
OMP_NUM_THREADS=12

317.applu_1 : basepeak=yes

321.equake_1: -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
OMP_NUM_THREADS=12

325.apsi_1 : -fast -xtarget=nehalem -xpagesize=2M -xmodel=medium
-xopenmp -xautopar -xipo=2 -xvector=lib
-xprefetch -xprefetch_level=3 -m64 -lmtmalloc +FDO

327.gafort_1: -fast -xtarget=nehalem -xmodel=medium -fstore
-xpagesize=2M -xipo=2 -m64 -xvector=simd
-xopenmp -lmvec +FDO

329.fma3d_1 : -fast -xtarget=nehalem -xpagesize=2M -xmodel=medium
-xopenmp -xautopar -xipo=2 -xvector=lib -xprefetch
-xprefetch_level=3 -m64 -lmtmalloc

331.art_1 : -fast -xtarget=nehalem -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
OMP_NUM_THREADS=12

Extra art allowed flags:

331.art_1 : -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
```

/etc/system parameters:

```
tune_t_fsflushr=10
autoup=900
zfs:zfs_arc_max = 0x10000000
lpg_alloc_prefer=1
```



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Notes/Tuning Information (Continued)

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.

Changes applied to Default BIOS settings :

Intel C-State was disabled (default:enabled)

Data Reuse Optimization was disabled (default:enabled)

Intel Turbo Boost technology enabled, maximum 3.60 GHz (default)

Intel Hyper-Threading technology enabled (default)