

# OMPL2001 Result

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Dell Inc.  
PowerEdge T620

SPECompLpeak2001 = 544251

SPECompLbase2001 = 525122

SPEC license #: 3212 | Tested by: Dell Inc. | Test date: Feb-2012 | Hardware Avail: Mar-2012 | Software Avail: Jan-2012

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	
311.wupwise_l	9200	213	692021	209	705289	1000000
313.swim_l	12500	635	314892	580	344764	2000000
315.mgrid_l	13500	529	408586	528	408898	
317.applu_l	13500	824	262095	817	264504	
321.quake_l	13000	410	507901	382	544866	
325.apsi_l	10500	259	649400	257	653953	
327.gafort_l	11000	350	502749	314	559693	
329.fma3d_l	23500	888	423541	870	432409	
331.art_l	25000	216	1852605	217	1847462	

## Hardware

CPU: Intel E5-2690  
CPU MHz: 2900  
FPU: Integrated  
CPU(s) enabled: 16 cores, 2 chips, 8 cores/chip, 2 threads/core  
CPU(s) orderable: 1,2  
Primary Cache: 32KB(I)+32KB(D) per core on chip  
Secondary Cache: 256KB per core (I+D) on chip  
L3 Cache: 20MB (I+D) per chip on chip  
Other Cache: N/A  
Memory: 128 GB (DDR3 RDIMM 16x8GB 1600 MHz)  
Disk Subsystem: 2 x 250GB SATA 7.2k on Dell PERC H710P RAID0  
Other Hardware: N/A

## Software

OpenMP Threads: 32  
Parallel: OpenMP  
Operating System: SUSE Linux 11 SP2 x86\_64 GMC3, kernel 3.0.13-027  
Compiler: Intel C/C++ Compiler 12.0.5.2011719 for Linux  
Intel FORTRAN Compiler 12.0.5.2011719 for Linux  
Intel Math Kernel Library 10.3 update 9 for Linux  
GNU C Compiler 4.4.5 20110214  
File System: Linux ext3  
System State: Default

## Notes/Tuning Information

BIOS settings notes: Intel Turbo Boost Technology (Turbo) : enabled (default is enabled)  
Intel Hyper-Threading Technology (SMT): enabled (default is enabled)  
Dell BIOS System Profile Settings: Custom -CPU Power Management=Maximum Performance

Portability Flags:

318.galgel\_m: -FI -132

Extra Flags:

330.art\_m: -DINTS\_PER\_CACHELINE=32 -DDBLS\_PER\_CACHELINE=16

331.art\_l: -DINTS\_PER\_CACHELINE=32 -DDBLS\_PER\_CACHELINE=16

all: -gcc-name=/usr/bin/gcc

General Notes and Environment variables

export KMP\_LIBRARY=turnaround

export KMP\_STACKSIZE=31M

export KMP\_BLOCKTIME=infinite

export OMP\_DYNAMIC=FALSE

ONESTEP=yes

ulimit -s unlimited

Large:

OPTIMIZE = -O2 -xAVX -ipo -openmp -mmodel=medium -shared-intel

COPTIMIZE = -ansi-alias

export KMP\_AFFINITY=compact,0

Peak optimization flags and environment variables:

Standard Performance Evaluation Corporation

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http://www.spec.org/

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## Notes/Tuning Information (Continued)

=====  
Large:

```
OPTIMIZE = -O3 -xAVX -ipo -openmp
export KMP_AFFINITY=compact,0
```

Peak per-benchmark optimization flags and enviroment variables:

```
OPTIMIZE=-O3 -xSSE4.2 -ipo -openmp
```

=====  
311.wupwise\_1

=====  
313.swim\_m

```
OPTIMIZE=-O3 -xSSE4.2 -ipo -openmp -opt-streaming-stores always -align -mcmmodel=medium -shared-intel
export OMP_NUM_THREADS=16
export KMP_AFFINITY=compact,1
```

=====  
315.mgrid\_1

```
OPTIMIZE=-O3 -xAVX -ipo -openmp -fno-alias
```

=====  
317.applu\_1

```
OPTIMIZE=-O3 -xAVX -ipo -openmp -mcmmodel=medium -shared-intel
export KMP_AFFINITY=scatter,0
```

=====  
321.equake\_1

```
export OMP_NUM_THREADS=16
export KMP_AFFINITY=compact,1
```

=====  
325.appsi\_1

```
OPTIMIZE=-O2 -xAVX -ipo -openmp
```

=====  
327.gafort\_1

```
OPTIMIZE=-O3 -xSSE4.2 -ipo -openmp -mcmmodel=medium -shared-intel
export KMP_AFFINITY=scatter,0
```

=====  
329.fma3d\_1

```
FOPTIMIZE=-no-prec-sqrt -fp-model fast=2
```

=====  
331.art\_1

```
OPTIMIZE=-O2 -xSSE4.2 -ipo -openmp
COPTIMIZE=-ansi-alias
```