



OMPL2001 Result

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Intel Corporation
Intel(R) G29051-202 (Endeavor Node)

SPECompLpeak2001 = 478523
SPECompLbase2001 = 465460

SPEC license #HPG0013 Tested by: Intel Corporation Test site: -- Test date: Feb-2012 Hardware AvailMar-2012 Software AvailAug-2011

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio
311.wupwise_l	9200	232	635061	225	655590
313.swim_l	12500	681	293604	615	324991
315.mgrid_l	13500	581	371690	580	372510
317.applu_l	13500	939	230150	1009	214176
321.quake_l	13000	439	473694	406	512551
325.apsi_l	10500	369	455381	374	449752
327.gafort_l	11000	381	461924	344	510933
329.fma3d_l	23500	975	385652	956	393383
331.art_l	25000	239	1673138	239	1670396

Hardware

CPU: Intel(R) Xeon(R) Processor E5-2670
 CPU MHz: 2600
 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: 64 GB (8 x 8 GB 2Rx4 PC3-12800R-11, ECC)
 Disk Subsystem: 1x600GB SSD SEAGATE ST9600205SS
 Other Hardware:

Software

OpenMP Threads: 32
 Parallel: OpenMP
 Operating System: Red Hat EL 6.1, kernel 2.6.32-131
 Compiler: Intel C++ Composer XE 2011 for Linux, Version 12.0.5.220 Build 20110719
 Intel C++ Composer XE 2011 for Linux, Version 12.0.5.220 Build 20110719
 Intel Fortran Composer XE 2011 for Linux, Version 12.0.5.220 Build 20110719
 GNU C Compiler 4.4.6-3 20110731
 File System: Linux ext3
 System State: Default

Notes/Tuning Information

BIOS settings notes:

Intel Hyper-Threading Technology (SMT): Enabled (default is Disabled)
 Intel Turbo Boost Technology (Turbo) : Enabled (Max 3.3GHz)

Extra Flags:

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

For compiler/openmp flags description please refer:

Intel-ic12.0-intel64-linux-flags-file-Feb-22-2012.html

Base optimization flags and environment variables:

Large:

```
OPTIMIZE = -O2 -xAVX -ipo -openmp -mcmmodel=medium -shared-intel
COPTIMIZE = -ansi-alias
export KMP_AFFINITY=compact,0
```

Peak optimization flags and environment variables:

Large:

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



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Notes/Tuning Information (Continued)

Peak per-benchmark optimization flags and enviroment variables:

```

OPTIMIZE=-O3 -xSSE4.2 -ipo -openmp
=====
311.wupwise_l
OPTIMIZE=-O3 -xSSE4.2 -ipo -openmp

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

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

=====
321.equake_l
export OMP_NUM_THREADS=16
export KMP_AFFINITY=compact,1

=====
325.appsi_l
OPTIMIZE=-O2 -xAVX -ipo -openmp

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

=====
329.fma3d_l
FOPTIMIZE=-no-prec-sqrt -fp-model fast=2

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

```