



OMPM2001 Result

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

SPECompMpeak2001 = 92430
SPECompMbase2001 = 82819

SPEC license #HPG0013 | Tested by: Intel Corporation | Test site: -- | Test date: Feb-2012 | Hardware Avail: Mar-2012 | Software Avail: Aug-2011

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio	
310.wupwise_m	6000	40.6	147682	38.2	157075	
312.swim_m	6000	86.4	69434	76.0	78992	
314.mgrid_m	7300	109	66777	93.3	78240	
316.applu_m	4000	46.1	86816	45.1	88780	
318.galgel_m	5100	84.0	60748	65.3	78108	
320.quake_m	2600	38.5	67620	27.8	93681	
324.apsi_m	3400	44.2	76954	45.2	75240	
326.gafort_m	8700	98.2	88626	87.7	99230	
328.fma3d_m	4600	82.0	56130	69.8	65860	
330.art_m	6400	26.0	246529	25.7	249441	
332.ammp_m	7000	128	54559	129	54384	

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)

Portability Flags:

318.galgel_m: -FI -132

Extra Flags:

330.art_m: -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:

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Medium:

OPTIMIZE = -O2 -xAVX -ipo -openmp
 COPTIMIZE = -ansi-alias
 export KMP_AFFINITY=compact,0



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Notes/Tuning Information (Continued)

Peak optimization flags and environment variables:

Medium:

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

Peak per-benchmark optimization flags and environment variables:

310.wupwise_m

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

312.swim_m

```
OPTIMIZE=-O3 -xSSE4.2 -ipo -openmp -opt-streaming-stores always -align
srcalt = omp1.32
export OMP_NUM_THREADS=16
export KMP_AFFINITY=compact,1
```

314.mgrid_m

```
OPTIMIZE=-O3 -xSSE4.2 -ipo -openmp -fno-alias
export OMP_NUM_THREADS=16
export KMP_AFFINITY=compact,1
```

316.applu_m

```
export KMP_AFFINITY=compact,1
```

318.galgel_m

```
export OMP_NUM_THREADS=16
OPTIMIZE=-O2 -xAVX -ipo -openmp
FOPTIMIZE=-mkl
RM_SOURCES=lapak.f90
export KMP_AFFINITY=compact,1
```

320.equake_m

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

324.appsi_m

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

326.gafort_m

```
srcalt = omp1.32
OPTIMIZE=-O3 -xSSE4.2 -ipo -openmp
export KMP_AFFINITY=scatter,0
```

328.fma3d_m

```
FOPTIMIZE=-no-prec-sqrt -fp-model fast=2
export KMP_AFFINITY=compact,1
```



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Notes/Tuning Information (Continued)

srcalt = ompl.32

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330.art_m
OPTIMIZE=-O2 -xSSE4.2 -ipo -openmp

=====

332.amp_m
OPTIMIZE=-O3 -xAVX -ipo -openmp