



OMPM2001 Result

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Intel Corporation
Endeavor Node(Intel SR1600UR)

SPECompMpeak2001 = 51955
SPECompMbase2001 = 48979

SPEC license #HPG0013 | Tested by: Intel Corporation | Test site: -- | Test date: Feb-2010 | Hardware Avail: Mar-2010 | Software Avail: Feb-2010

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio
310.wupwise_m	6000	72.8	82438	72.2	83107
312.swim_m	6000	155	38752	134	44770
314.mgrid_m	7300	208	35111	193	37794
316.applu_m	4000	117	34288	117	34178
318.galgel_m	5100	120	42424	113	45156
320.earthquake_m	2600	57.0	45624	50.1	51875
324.apsi_m	3400	70.1	48502	69.7	48781
326.gafort_m	8700	143	60961	135	64330
328.fma3d_m	4600	124	37133	111	41537
330.art_m	6400	52.4	122148	49.2	130181
332.ammp_m	7000	180	38975	180	38977

Hardware

CPU: Intel(R) Xeon(R) Processor X5670
 CPU MHz: 2930
 FPU: Integrated
 CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip, 2 threads/core
 CPU(s) orderable: 1,2
 Primary Cache: 32KB I + 32KB D on chip per core
 Secondary Cache: 256KB I+D on chip per core
 L3 Cache: 12MB I+D on chip per chip
 Other Cache: N/A
 Memory: 24 GB (RDIMM 6x4-GB 1333 MHz)
 Disk Subsystem: Seagate 500 GB ST300655SS
 Other Hardware:

Software

OpenMP Threads: 24
 Parallel: OpenMP
 Operating System: Red Hat EL 5.4, kernel 2.6.18-164
 Compiler: Intel C/C++ Compiler 11.1.059 for Linux
 Intel FORTRAN Compiler 11.1.059 for Linux
 GNU C Compiler 4.1.2 20070115
 File System: Linux ext3
 System State: Default

Notes/Tuning Information

BIOS settings notes:

Intel Hyper-Threading Technology (SMT): Enabled
 Intel Turbo Boost Technology (Turbo) : Disabled

Portability Flags:

318.galgel_m: -FI -132

Extra Flags:

330.art_m: -DINTS_PER_CACHELINE=16 -DDBLS_PER_CACHELINE=8
 331.art_l: -DINTS_PER_CACHELINE=16 -DDBLS_PER_CACHELINE=8
 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_NUM_THREADS=24
 ONESTEP=yes
 ulimit -s 64000

For compiler/openmp flags description please refer:
 Intel-ic11.1-intel64-linux-flags-file-Feb-25-2010.html
 Base optimization flags and environment variables:



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Notes/Tuning Information (Continued)

=====
Medium:

```
OPTIMIZE = -O3 -xSSE4.2 -ipo1 -openmp
export KMP_AFFINITY=scatter,1
```

Peak optimization flags and enviroment variables:

=====
Medium:

```
OPTIMIZE = -O3 -xSSE4.2 -ipo1 -openmp -rcd
export KMP_AFFINITY=compact,1
```

Peak per-benchmark optimization flags and enviroment variables:

=====
310.wupwise_m
export KMP_AFFINITY=scatter,1

=====
312.swim_m
OPTIMIZE=-O3 -xSSE4.2 -ipo1 -openmp -opt-streaming-stores always -align -rcd
srcalt = ompl.32
export OMP_NUM_THREADS=12

=====
314.mgrid_m
OPTIMIZE=-O3 -xSSE4.2 -ipo1 -openmp -opt-streaming-stores never -align -rcd
export OMP_NUM_THREADS=12

=====
316.applu_m
export KMP_AFFINITY=scatter,1

=====
318.galgel_m
export OMP_NUM_THREADS=12

=====
320.quake_m
export OMP_NUM_THREADS=12

=====
324.appsi_m
export OMP_NUM_THREADS=12

=====
326.gafort_m
srcalt = ompl.32

=====
328.fma3d_m
FOPTIMIZE=-no-prec-sqrt -fp-model fast=2
srcalt = ompl.32

=====
330.art_m
COPTIMIZE=-ansi-alias



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Notes/Tuning Information (Continued)

```
export KMP_AFFINITY=scatter,1
```

```
=====
332. ammp_m
OPTIMIZE=-O3 -xSSE4.2 -ipol -openmp
export KMP_AFFINITY=scatter,1
```