



# OMPM2001 Result

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Intel Corporation  
Endeavor Node(Intel SR1600UR)

SPECompMpeak2001 = 48538  
SPECompMbase2001 = 47499

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	74.5	80516	74.6	80432
312.swim_m	6000	158	38012	138	43337
314.mgrid_m	7300	195	37438	195	37400
316.applu_m	4000	115	34659	115	34659
318.galgel_m	5100	113	45155	113	44992
320.earthquake_m	2600	52.9	49105	52.5	49482
324.apsi_m	3400	70.1	48499	70.1	48498
326.gafort_m	8700	166	52301	164	52945
328.fma3d_m	4600	140	32798	133	34700
330.art_m	6400	51.0	125476	48.9	130796
332.ammp_m	7000	232	30208	233	30051

### Hardware

CPU: Intel(R) Xeon(R) Processor X5670  
 CPU MHz: 2930  
 FPU: Integrated  
 CPU(s) enabled: 12 cores, 2 chips, 6 cores/chip, 1 thread/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: 12  
 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): Disabled  
 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 -D\_OPENMP  
 331.art\_l: -DINTS\_PER\_CACHELINE=16 -DDBLS\_PER\_CACHELINE=8 -D\_OPENMP  
 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=12  
 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,0
```

Peak optimization flags and enviroment variables:

=====  
Medium:

```
OPTIMIZE = -O3 -xSSE4.2 -ipo1 -openmp -rcd
export KMP_AFFINITY=scatter,0
```

Peak per-benchmark optimization flags and enviroment variables:

=====  
312.swim\_m

```
OPTIMIZE=-O3 -xSSE4.2 -ipo1 -openmp -opt-streaming-stores always -align -rcd
srcalt = ompl.32
```

=====  
314.mgrid\_m

```
OPTIMIZE=-O3 -xSSE4.2 -ipo1 -openmp --opt-streaming-stores never -align -rcd
```

=====  
OPTIMIZE=-O3 -xSSE4.2 -ipo1 -openmp

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

=====  
332.amp\_m

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