OMPM2001 Result

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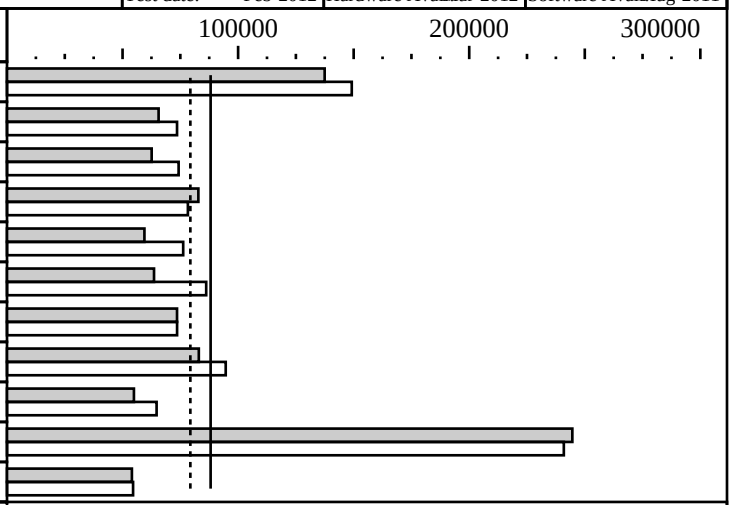
Intel Corporation
Intel(R) G29051-202 (Endeavor Node)

SPECompMpeak2001 = 88107

SPECompMbase2001 = 79336

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	43.7	137448	40.2	149174
312.swim_m	6000	91.5	65598	81.6	73574
314.mgrid_m	7300	117	62592	98.3	74260
316.applu_m	4000	48.3	82804	51.1	78267
318.galgel_m	5100	85.8	59463	66.9	76237
320.equake_m	2600	40.9	63618	30.2	86193
324.apsi_m	3400	46.2	73571	46.2	73594
326.gafort_m	8700	105	82997	91.9	94638
328.fma3d_m	4600	83.8	54920	71.1	64731
330.art_m	6400	26.2	244619	26.6	240935
332.ammp_m	7000	130	54043	128	54553



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, ECC, running at 1333MHz and CL9)
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 Enviroment 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 enviroment variables:
================================================================================
Medium:
  OPTIMIZE  = -O2 -xAVX -ipo -openmp
  COPTIMIZE  = -ansi-alias
  export KMP_AFFINITY=compact,0
```

Notes/Tuning Information (Continued)

```
Peak optimization flags and enviroment variables:
================================================================================
Medium:
  OPTIMIZE  = -O3 -xAVX -ipo -openmp
  export KMP_AFFINITY=compact, 0

Peak per-benchmark optimization flags and enviroment 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 = ompl.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 = ompl.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
```

Notes/Tuning Information (Continued)

```
  srcalt = ompl.32

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

==============================================================================
332.ammp_m
  OPTIMIZE=-O3 -xAVX -ipo -openmp
```