OMPM2001 Result

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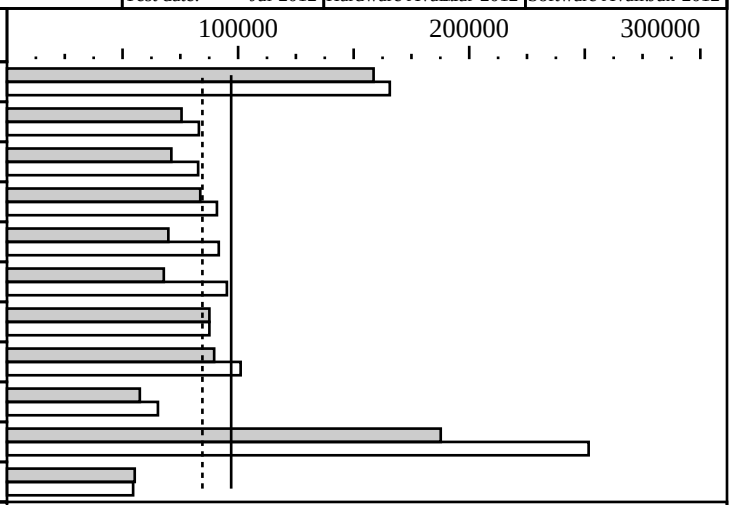
Huawei
Huawei RH2288 V2

SPECompMpeak2001 = 97001

SPECompMbase2001 = 84552

SPEC license #:HPG0024 | Tested by: Huawei | Test site: -- | Test date: Jul-2012 | Hardware Avail:Mar-2012 | Software Avail:Jun-2012

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio
310.wupwise_m	6000	37.8	158618	36.2	165628
312.swim_m	6000	79.4	75520	72.3	83034
314.mgrid_m	7300	103	71113	88.3	82707
316.applu_m	4000	47.8	83622	44.0	90836
318.galgel_m	5100	73.0	69818	55.7	91631
320.equake_m	2600	38.3	67846	27.3	95142
324.apsi_m	3400	38.8	87577	38.8	87575
326.gafort_m	8700	97.1	89639	86.1	101098
328.fma3d_m	4600	80.0	57471	70.4	65308
330.art_m	6400	34.1	187671	25.4	251670
332.ammp_m	7000	127	55266	128	54574



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:	148 GB (ECC DDR3 RDIMM 16x8-GB 1600 MHz)
Disk Subsystem:	1 x 300 GB SAS, 10K RPM
Other Hardware:	

Software

OpenMP Threads:	32
Parallel:	OpenMP
Operating System:	Red Hat EL 6.2, 2.6.32-220.el6.x86_64
Compiler:	Intel C/C++ Compiler 12.1.5 20120612 for Linux Intel FORTRAN Compiler 12.1.5 20120612 for Linux GNU C Compiler 4.4.5 20110214
File System:	Linux ext4
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-ic12.1-intel64-linux-flags-file-Feb-22-2012.html
Base optimization flags and environment variables:
========================================================================
Medium:
  OPTIMIZE  = -O2 -xAVX -ipo -openmp
  COPTIMIZE  = -ansi-alias
  export KMP_AFFINITY=compact,0
```

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 = 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
```