# OMPM2001 Result

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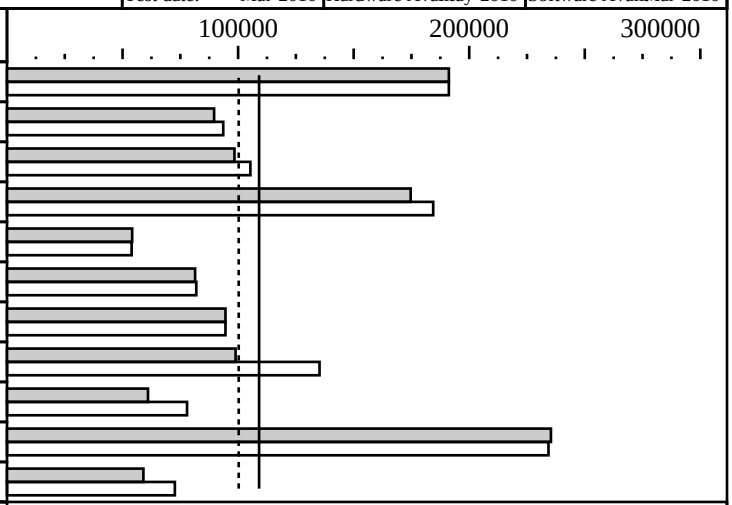
## CISCO Systems, Inc.
## Cisco UCS C460 M1

SPECompMpeak2001 = 109077

SPECompMbase2001 = 100258

SPEC license #: HPG9019 | Tested by: Cisco Systems, Inc. | Test site: -- | Test date: Mar-2010 | Hardware Avail: May-2010 | Software Avail: Mar-2010

| Benchmark | Reference Time | Base Runtime | Base Ratio | Peak Runtime | Peak Ratio |
|---|---|---|---|---|---|
| 310.wupwise_m | 6000 | 31.4 | 191199 | 31.4 | 191185 |
| 312.swim_m | 6000 | 67.0 | 89611 | 64.1 | 93563 |
| 314.mgrid_m | 7300 | 74.2 | 98421 | 69.3 | 105307 |
| 316.applu_m | 4000 | 22.9 | 174666 | 21.7 | 184407 |
| 318.galgel_m | 5100 | 94.2 | 54161 | 94.6 | 53931 |
| 320.equake_m | 2600 | 31.9 | 81391 | 31.7 | 81903 |
| 324.apsi_m | 3400 | 36.0 | 94533 | 36.0 | 94535 |
| 326.gafort_m | 8700 | 88.0 | 98901 | 64.3 | 135231 |
| 328.fma3d_m | 4600 | 75.4 | 61003 | 59.0 | 77908 |
| 330.art_m | 6400 | 27.2 | 235356 | 27.3 | 234298 |
| 332.ammp_m | 7000 | 119 | 59024 | 96.4 | 72633 |




### Hardware

| | |
|---|---|
| CPU: | Intel(R) Xeon(R) Processor X7560 |
| CPU MHz: | 2260 |
| FPU: | Integrated |
| CPU(s) enabled: | 32 cores, 4 chips, 8 cores/chip 2 threads/core |
| CPU(s) orderable: | 1,2,3,4 |
| Primary Cache: | 32KB I + 32KB D on chip per core |
| Secondary Cache: | 256KB I+D on chip per core per chip |
| L3 Cache: | 24MB I+D on chip per chip |
| Other Cache: | N/A |
| Memory: | 512 GB (RDIMM 64x8 GB 1066 MHz) |
| Disk Subsystem: | 146 GB SAS, 10K RPM |
| Other Hardware: | None |

### Software

| | |
|---|---|
| OpenMP Threads: | 64 |
| Parallel: | OpenMP |
| Operating System: | Red Hat EL 5.3, kernel 2.6.18-128 |
| Compiler: | Intel C/C++ Compiler 11.1.059 for Linux<br>Intel FORTRAN Compiler 11.1.059 for Linux<br>GNU C Compiler 4.1.2 20070115 |
| File System: | Linux ext3 |
| System State: | Multi-user, run level 3 |

## Notes/Tuning Information

```
================================================================================
BIOS settings notes:
  Intel Hyper-Threading Technology (SMT): Enabled
  Intel Turbo Boost Technology (Turbo)  : Enabled (Max 2.66 GHz)

================================================================================
Extra Flags:
  318.galgel_m: -FI -132
  330.art_m: -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_DYNAMIC=FALSE
  ONESTEP=yes
  ulimit -s 64000

For compiler/openMP flags description please refer:
Intel-ic11.1-intel64-linux-flags-file-Feb-25-2010 .html
```

## Notes/Tuning Information (Continued)

```
Base optimization flags and Environment variables:
================================================================================
Medium:
  OPTIMIZE  = -O3 -xSSE4.2 -ipo1 -openmp
  COPTIMIZE  = -ansi-alias
  export OMP_NUM_THREADS=32
  export KMP_AFFINITY=compact,1

Peak optimization flags and Environment variables:
================================================================================
Medium:
  OPTIMIZE  = -O3 -xSSE4.2 -ipo1 -openmp -rcd
  export KMP_AFFINITY=compact,1

Peak per-benchmark optimization flags and Environment variables:
================================================================================
310.wupwise_m
  export OMP_NUM_THREADS=32

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

================================================================================
314.mgrid_m
  OPTIMIZE=-O3 -xSSE4.2 -ipo1 -openmp -fno-alias -rcd
  export OMP_NUM_THREADS=32

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

================================================================================
318.galgel_m
  export OMP_NUM_THREADS=32

================================================================================
320.equake_m
  export OMP_NUM_THREADS=32

================================================================================
324.appsi_m
  OPTIMIZE=-O3 -xSSE4.2 -ipo1 -openmp
  export OMP_NUM_THREADS=32

================================================================================
326.gafort_m
  srcalt = ompl.32
  export KMP_AFFINITY=scatter,0

================================================================================
328.fma3d_m
  FOPTIMIZE=-no-prec-sqrt -fp-model fast=2
```

## Notes/Tuning Information (Continued)

```
  srcalt = ompl.32

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

==============================================================================
332.ammp_m
  OPTIMIZE=-O3 -xSSE4.2 -ipo1 -openmp
```