



# OMPM2001 Result

Copyright 1999-2008, Standard Performance Evaluation Corporation

## IBM

IBM System x iDP dx360 M2 (KVM virtual machine)

SPECompMpeak2001 = --

SPECompMbase2001 = 34384

SPEC license #PG3440A | Tested by: Indiana University | Test site: Indiana University | Test date: Jan-2011 | Hardware Avail: Dec-2009 | Software Avail: Jan-2010

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio	
310.wupwise_m	6000	104	57528			
312.swim_m	6000	204	29340			
314.mgrid_m	7300	269	27179			
316.applu_m	4000	139	28733			
318.galgel_m	5100	162	31555			
320.equake_m	2600	63.2	41163			
324.apsi_m	3400	102	33262			
326.gafort_m	8700	235	36952			
328.fma3d_m	4600	194	23715			
330.art_m	6400	75.5	84792			
332.ampm_m	7000	373	18771			

### Hardware

CPU: Intel Xeon E5570  
 CPU MHz: 2934  
 FPU: Integrated  
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip (HT off)  
 CPU(s) orderable: 1-2 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 256 KB I+D on chip per core  
 L3 Cache: 8 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 24 GB (6\*4GB DDR3-1333 RDIMMs); 16 GB KVM allocated  
 Disk Subsystem: single 500GB SATA hosting a 8 GB KVM QCOW image  
 Other Hardware: None

### Software

OpenMP Threads: 8  
 Parallel: --  
 Operating System: RHEL5.5 (x86\_64) Kernel 2.6.18-194.26.1.el5  
 KVM Kernel 2.6.18-194.26.1.el5  
 KVM Version 83 Release 224.el5  
 Compiler: Intel C/C++ Compiler 11.1.072  
 Intel Fortran Compiler 11.1.072  
 File System: ext3; KVM ext3  
 System State: Multi-user, run level 3

## Notes/Tuning Information

### VM Configuration details:

1 VM for OMP2001 with 8 VCPUS  
 Only one VM per node  
 Host and guest OS installed using default parameters  
 KVM installed using default parameters

Intel Turbo Boost Technology (Turbo) : Disabled

ulimit -s unlimited

Removes limits on the maximum size of the automatically-extended stack region of the current process and each process it creates.

### Compiler flags for base level optimization

COPTIMIZE : -O3 -xSSE3 -ipo -no-prec-div -unroll-loops0 -openmp  
 FOPTIMIZE : -O3 -xSSE3 -ipo -no-prec-div -unroll-loops0 -openmp  
 F77OPTIMIZE : -O3 -xSSE3 -ipo -no-prec-div -unroll-loops0 -openmp

### Environment:

KMP\_AFFINITY=enabled  
 controls the binding of OpenMP threads to the physical processing units  
 KMP\_SCHEDULE=static,balanced  
 used to fine tune the load balancing of parallel loops that are statically scheduled under OpenMP with no chunk size specification  
 KMP\_BLOCKTIME=infinite  
 Sets the time, in milliseconds, that a thread should wait, after completing the execution of a parallel region, before sleeping.



# OMPM2001 Result

Copyright 1999-2008, Standard Performance Evaluation Corporation

IBM

IBM System x iDP dx360 M2 (KVM virtual machine)

SPECompMpeak2001 = --

SPECompMbase2001 = 34384

SPEC license #PG3440A | Tested by: Indiana University | Test site: Indiana University | Test date: Jan-2011 | Hardware Avail: Dec-2009 | Software Avail: Jan-2010

## Notes/Tuning Information (Continued)

```
KMP_LIBRARY=throughput
  Selects the OpenMP run-time library
KMP_STACKSIZE=31m
  Sets the number of bytes to allocate for each parallel thread to use as
  to use as its private stack
OMP_NESTED=TRUE
  Enables (TRUE) or disables (FALSE) nested parallelism.
OMP_DYNAMIC=FALSE
  Enables (true) or disables (false) the dynamic adjustment of the number of threads.
OMP_NUM_THREADS=8
  Sets the maximum number of threads to use for OpenMP* parallel
  regions if no other value is specified in the program itself.
```