



# OMPM2001 Result

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IBM Corporation  
IBM BladeCenter JS22 (4.0 GHz, 4 core)

SPECompMpeak2001 = 19568  
SPECompMbase2001 = 18218

SPEC license #HPG0005 | Tested by: IBM | Test site: Austin, TX | Test date: Oct-2007 | Hardware Avail: Nov-2007 | Software Avail: Nov-2007

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio	
310.wupwise_m	6000	239	25120	239	25120	
312.swim_m	6000	374	16057	355	16893	
314.mgrid_m	7300	474	15410	380	19190	
316.applu_m	4000	286	13976	263	15217	
318.galgel_m	5100	291	17526	237	21490	
320.earthquake_m	2600	137	18923	122	21380	
324.apsi_m	3400	175	19476	163	20845	
326.gafort_m	8700	539	16133	539	16133	
328.fma3d_m	4600	377	12194	362	12709	
330.art_m	6400	122	52331	122	52312	
332.ammp_m	7000	551	12699	553	12652	

### Hardware

CPU: POWER6  
 CPU MHz: 4000  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip, 2 threads/core  
 CPU(s) orderable: 4 cores  
 Primary Cache: 64 KB I + 64 KB D on chip per core  
 Secondary Cache: 4 MB I+D on chip per core  
 L3 Cache: None  
 Other Cache: None  
 Memory: 16 GB (4x4 GB) DDR2 667 MHz  
 Disk Subsystem: 1x146 GB SAS 15K RPM  
 Other Hardware: None

### Software

OpenMP Threads: 8  
 Parallel: OpenMP  
 Operating System: IBM AIX 5L V5.3  
 Compiler: XL C/C++ Enterprise Edition Version 9.0 for AIX  
 XL Fortran Enterprise Edition Version 11.1 for AIX  
 Other Software: IBM Engineering and Scientific Subroutine Library (ESSL) version 4.3.0.2  
 File System: AIX/JFS2  
 System State: Multi-user

## Notes/Tuning Information

### Portability Flags Variables

-qfixed used in: 310.wupwise\_m, 312.swim\_m, 314.mgrid\_m, 316.applu\_m, 324.apsi\_m  
 -qfixed=80 used in: 318.galgel\_m  
 -qsuffix=f=f90 used in: 318.galgel\_m, 326.gafort\_m, 328.fma3d\_m

### Base Flags

FORTTRAN: -qsmp=omp -qipa=partition=large -qmaxmem=-1 -qsuppress=cmpmsg  
 -O5 -bmaxdata:0x80000000

C: -qsmp=omp -qipa=partition=large -qmaxmem=-1  
 -O5 -bmaxdata:0x80000000

### Base & Peak User Environment:

OMP\_DYNAMIC=FALSE  
 MALLOCOPTIONS=multiheap  
 MEMORY\_AFFINITY=MCM  
 XLFRTEOPTS=intrinths=1  
 ENV\_XLSMPOPTS=SPINS=0:YIELDS=0:STACK=8000000:SCHEDULE=STATIC:STARTPROC=0:STRIDE=1  
 OMP\_NUM\_THREADS=8

### Peak sources:

Approved SPEC OMPL2001 source for 32bit systems modified for SPEC OMPM2001 used with 320.earthquake\_m.

### Peak Flags:



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## Notes/Tuning Information (Continued)

```

310.wupwise_m: basepeak=1
312.swim_m: -qsmp=omp -qipa=partition=large -qmaxmem=-1
           -O5 -qenablevmx -qvecnvml -qessl
           -bdatapsize:64K -bstackpsize:64K -btextpsize:64K -bmaxdata:0x80000000 -lesslsmpl
314.mgrid_m: -qsmp=omp -qipa=partition=large -qmaxmem=-1 -qsuppress=cmpmsg
           -pdf1/pdf2 -O5 -q64 -qalign=struct=natural
           -bdatapsize:64K -bstackpsize:64K
           ENV_OMP_NUM_THREADS=4
           ENV_XLSMPOPTS=SPINS=0:YIELDS=0:STACK=8000000:SCHEDULE=STATIC:STARTPROC=0:STRIDE=2
316.applu_m: -qsmp=omp -qipa=partition=large -qmaxmem=-1
           -O5 -qenablevmx -qvecnvml -qessl
           -bdatapsize:64K -bstackpsize:64K -btextpsize:64K -bmaxdata:0x80000000 -lesslsmpl
318.galgel_m: -qsmp=omp -qipa=partition=large -qmaxmem=-1 -qsuppress=cmpmsg
           -O4 -q64 -qessl
           -bdatapsize:64K -bstackpsize:64K -lesslsmpl
320.equake_m: -qsmp=omp -qipa=partition=large -qmaxmem=-1
           -pdf1/pdf2 -O5 -qhot=arraypad -Q
           -btextpsize:64K -bdatapsize:64K -bmaxdata:0x80000000
324.apsi_m: -qsmp=omp -qipa=partition=large -qmaxmem=-1 -qsuppress=cmpmsg
           -O5 -qenablevmx -qvecnvml -qessl
           -bdatapsize:64K -bstackpsize:64K -btextpsize:64K -bmaxdata:0x80000000 -lesslsmpl
326.gafort_m: basepeak=1
328.fma3d_m: -qsmp=omp -qipa=partition=large -qmaxmem=-1 -qsuppress=cmpmsg
           -O5
           -bmaxdata:0x80000000 -btextpsize:64K -bdatapsize:64K
330.art_m: -qsmp=omp -qipa=partition=large -qmaxmem=-1
           -O5 -qenablevmx -qvecnvml -qessl
           -bdatapsize:64K -bstackpsize:64K -btextpsize:64K -bmaxdata:0x80000000
332.amp_m: -qsmp=omp -qipa=partition=large -qmaxmem=-1
           -O5
           -btextpsize:64K -bdatapsize:64K -bstackpsize:64K -bmaxdata:0x80000000

```

The installed OS level is AIX 5L for POWER version 5.3 with the 5300-07 Technology Level.  
IBM XL Compilers updated to October 2007 PTF Level.

C: IBM XL C for AIX invoked as xlc\_r  
Fortran: IBM XL Fortran for AIX invoked as xlf90\_r

ulimits set to unlimited.

User system privileges (capabilities) and Large Pages are set as follows:

```

vmo -r -o lpgg_regions=256 -o lpgg_size=16777216
chuser capabilities=CAP_BYPASS_RAC_VMM,CAP_PROPAGATE $USER
bosboot -aD
shutdown -rF

```

Use flags-description file IBM-20070606-AIX.txt