



OMPM2001 Result

Copyright ©1999-2007, Standard Performance Evaluation Corporation

IBM Corporation
IBM eServer p5 570 (1900 MHz, 4 CPU)

SPECompMpeak2001 = 16096
SPECompMbase2001 = 14335

SPEC license #HPG0005 | Tested by: IBM | Test site: Austin, TX | Test date: Oct-2004 | Hardware Avail: Sep-2004 | Software Avail: Oct-2004

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio
310.wupwise_m	6000	327	18343	327	18343
312.swim_m	6000	367	16353	317	18934
314.mgrid_m	7300	1028	7102	553	13196
316.applu_m	4000	192	20854	186	21492
318.galgel_m	5100	203	25110	175	29130
320.earthquake_m	2600	194	13369	168	15514
324.apsi_m	3400	279	12189	253	13460
326.gafort_m	8700	527	16493	530	16416
328.fma3d_m	4600	578	7954	574	8009
330.art_m	6400	211	30280	196	32627
332.ammp_m	7000	962	7274	958	7309

Hardware

CPU: POWER5
 CPU MHz: 1900
 FPU: Integrated
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip (SMT on)
 CPU(s) orderable: 2,4,8,12,16
 Primary Cache: 64KBI+32KBD (on chip)/core
 Secondary Cache: 1920KB unified (on chip)/chip
 L3 Cache: 36MB unified (off-chip)/DCM, 2 DCM/SUT
 Other Cache: None
 Memory: 16x1 GB DDR2
 Disk Subsystem: 1x36GB SCSI, 15K RPM
 Other Hardware: None

Software

OpenMP Threads: 8
 Parallel: OpenMP
 Operating System: AIX 5L V5.3
 Compiler: XL C/C++ Enterprise Edition Version 7.0 for AIX
 XL Fortran Enterprise Edition V9.1 for AIX
 Other Software: ESSL for AIX V4.2
 File System: AIX/JFS2
 System State: Multi-user

Notes/Tuning Information

Tested by IBM

Portability Flags & Environment 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

C: -qpdf1/pdf2
 -q64 -O5 -blpdata -qalign=natural -qhot=arraypad -Q -qsmp=omp
 EXTRA_LDFLAGS=-bmaxdata:0x80000000
 FORTRAN: -O5 -qhot=arraypad -qipa=noobject -qipa=partition=large -qmaxmem=-1 -qsmp=omp
 EXTRA_LDFLAGS=-bmaxdata:0x80000000

Base & Peak User Environment:

OMP_NUM_THREADS=\$ENV_OMP_NUM_THREADS
 OMP_DYNAMIC=FALSE
 ENV_XLSMPOPTS=SPINS=0:YIELDS=0:STACK=8000000:SCHEDULE=STATIC:STARTPROC=0:STRIDE=2
 MALLOCMULTIHEAP=1

Peak Flags:

-qsmp=omp used in all cases
 310.wupwise_m: basepeak=1



OMPM2001 Result

Copyright ©1999-2007, Standard Performance Evaluation Corporation

IBM Corporation

IBM eServer p5 570 (1900 MHz, 4 CPU)

SPECompMpeak2001 = 16096

SPECompMbase2001 = 14335

SPEC license #HPG0005 | Tested by: IBM | Test site: Austin, TX | Test date: Oct-2004 | Hardware Avail: Sep-2004 | Software Avail: Oct-2004

Notes/Tuning Information (Continued)

```

ENV_OMP_NUM_THREADS=7
312.swim_m: -q64 -O5 -qarch=pwr3 -qtune=pwr3
EXTRA_LDFLAGS=-q64
314.mgrid_m: -qpdf1/pdf2
-q64 -O5 -blpdata -qalign=natural -qhot=arraypad -Q
ENV_OMP_NUM_THREADS=4
316.applu_m: -q64 -O4 -qhot -qmaxmem=-1
EXTRA_LDFLAGS=-q64
318.galgel_m: -q64 -O5 -qessl -lesslsm
EXTRA_LDFLAGS=-q64
320.quake_m: -qpdf1/pdf2
-q64 -O5 -qessl -lesslsm
EXTRA_LDFLAGS=-bmaxdata:0x80000000
325.apsi_m: -qpdf1/pdf2
-q64 -O5 -blpdata -qalign=natural -qhot=arraypad -Q
326.gafort_m: -O5 -qipa=partition=large
EXTRA_LDFLAGS=-bmaxdata:0x80000000
328.fma3d_m: -O5 -qhot=arraypad -qipa=noobject -qipa=partition=large -qmaxmem=-1
EXTRA_LDFLAGS=-bmaxdata:0x80000000
330.art_m: -qpdf1/pdf2
-q64 -O5 -blpdata -qalign=natural -qhot=arraypad -Q
332.ammp_m: -qpdf1/pdf2
-q64 -O5 -blpdata -qalign=natural -qhot=arraypad -Q

```

Alternate sources:

Required srcalt=purdue1 is applied to 330.art_m (base & peak) for correctness.

Peak sources:

Optional SPEC OMPL2001 source for 32bit systems (modified for SPEC OMPM2001) was

SMT: Acronym for "Simultaneous Multi-Threading". A processor technology that allows the simultaneous execution of multiple thread contexts within a single processor core. (Enabled by default)

DCM: Acronym for Acronym for "Dual-Chip Module" (one dual-core processor chip + one L3-cache chip)

ESSL: Engineering and Scientific Subroutine Library

SUT: Acronym for "System Under Test"

C: IBM XL C for AIX invoked as xlc_r

Fortran: IBM XL Fortran for AIX invoked as xlf90_r

ulimits set to unlimited.

Large page mode and memory affinity were set as follows:

```

vmo -r -o lpgg_regions=500 -o lpgg_size=16777216 -o memory_affinity=1
chuser capabilities=CAP_BYPASS_RAC_VMM,CAP_PROPAGATE $USER
shutdown -r
export MEMORY_AFFINITY=MCM

```

For a description of IBM's compiler flags, portability flags, and system parameters used to generate this result, please refer to the IBM-20041019-AIX.txt file in the flags directory.