OMPM2001 Result

Copyright ©1999-2002, Standard Performance Evaluation Corporation

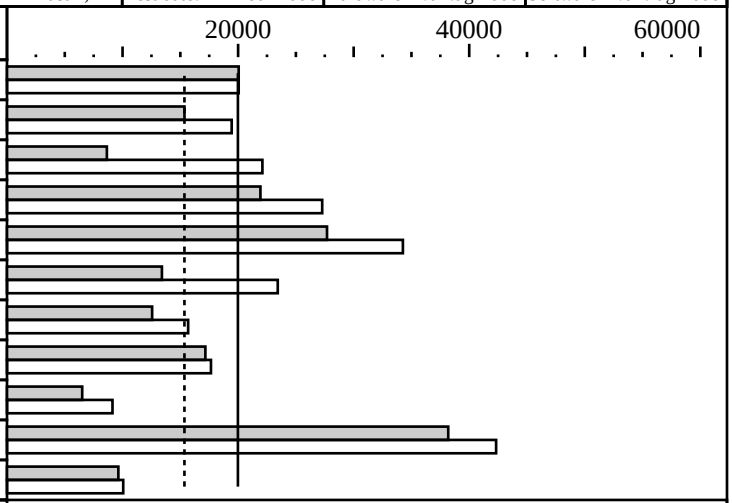
IBM Corporation
IBM System p5 550 (2100 MHz, 4 CPU)

SPECompMpeak2001 = 19983

SPECompMbase2001 = 15355

SPEC license #: HPG0005 | Tested by: IBM Austin | Test site: Austin, TX | Test date: Jul-2006 | Hardware Avail: Aug-2006 | Software Avail: Aug-2006

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio
310.wupwise_m	6000	299	20049	299	20049
312.swim_m	6000	391	15358	309	19444
314.mgrid_m	7300	845	8643	330	22102
316.applu_m	4000	182	21931	147	27276
318.galgel_m	5100	184	27694	149	34261
320.equake_m	2600	194	13406	111	23431
324.apsi_m	3400	271	12559	217	15676
326.gafort_m	8700	507	17167	493	17651
328.fma3d_m	4600	707	6508	504	9129
330.art_m	6400	168	38184	151	42327
332.ammp_m	7000	726	9637	696	10058



Hardware

CPU:	POWER5+
CPU MHz:	2100
FPU:	Integrated
CPU(s) enabled:	4 cores, 2 chips, 2 cores/chip (SMT on)
CPU(s) orderable:	2,4 cores
Primary Cache:	64 KB I + 32 KB D on chip per core
Secondary Cache:	1920 KB I+D on chip per chip
L3 Cache:	36 MB I+D off chip per chip, 2 chips per SUT
Other Cache:	None
Memory:	32 GB (8x4 GB)
Disk Subsystem:	2x73GB 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 8.0 for AIX XL Fortran Enterprise Edition Version 10.1 for AIX Other Software: ESSL 4.2.0.4
File System:	AIX/JFS2
System State:	Multi-user

Notes/Tuning Information

```
 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 -qipa=threads=4
  FORTRAN: -O5 -qipa=noobject -qipa=partition=large -qmaxmem=-1 -qsmp=omp -qipa=threads=4
           -bmaxdata:0xD0000000/dsa

Base & Peak User Environment:
  MEMORY_AFFINITY=MCM
  OMP_DYNAMIC=FALSE
  XLSMPOPTS=SPINS=0:YIELDS=0:STACK=8000000:SCHEDULE=STATIC:STARTPROC=0:STRIDE=1
  XLFRTEOPTS=intrinthds=1
  MALLOCMULTIHEAP=1
  OMP_NUM_THREADS=8

Peak Flags:
  -qsmp=omp used in all cases
  310.wupwise_m:    basepeak=1
  312.swim_m:       -qpdf1/pdf2
```

Copyright ©1999-2002, Standard Performance Evaluation Corporation

Notes/Tuning Information (Continued)

```
                    -q64 -bdatapsize:64K -O4
                    OMP_NUM_THREADS=4
                  XLSMPOPTS=SPINS=0:YIELDS=0:STACK=8000000:SCHEDULE=STATIC:STARTPROC=0:STRIDE=2
 314.mgrid_m:       -q64 -bdatapsize:64K -O5 -qsave
                    OMP_NUM_THREADS=4
                  XLSMPOPTS=SPINS=0:YIELDS=0:STACK=8000000:SCHEDULE=STATIC:STARTPROC=0:STRIDE=2
 316.applu_m:       -qpdf1/pdf2
                    -q64 -btextpsize:64K -bdatapsize:64K -bstackpsize:64K -O4 -qfdpr
 318.galgel_m:      -O5 -qarch=pwr3 -qtune=pwr3 -qessl
                EXTRA_LDFLAGS=-bmaxdata:0x80000000 -btextpsize:64K -bdatapsize:64K -bstackpsize:64K -lmass -lesslsmp
                    OMP_NUM_THREADS=4
                  XLSMPOPTS=SPINS=0:YIELDS=0:STACK=8000000:SCHEDULE=STATIC:STARTPROC=0:STRIDE=2
 320.equake_m:      -q64 -btextpsize:64K -bdatapsize:64K -bstackpsize:64K -O5 -qsave
                    OMP_NUM_THREADS=4
                  XLSMPOPTS=SPINS=0:YIELDS=0:STACK=8000000:SCHEDULE=STATIC:STARTPROC=0:STRIDE=2
 324.apsi_m:        -O5 -qalign=struct=natural -bdatapsize:64K -bstackpsize:64K
                    -bmaxdata:0x80000000
 326.gafort_m:     -btextpsize:64K -bdatapsize:64K -bstackpsize:64K -lmass -O5 -qhot=arraypad -Q
                    EXTRA_LDFLAGS=-bmaxdata:0x80000000
 328.fma3d_m:      -btextpsize:64K -bdatapsize:64K -bstackpsize:64K -lhmu -O5 -qhot=arraypad -qipa=noobject -qmaxmem=-1
                    EXTRA_LDFLAGS=-bmaxdata:0x80000000
 330.art_m:         -qpdf1/pdf2
                    -O5 -qfdpr -q64 -btextpsize:64K -bdatapsize:64K -lesslsmp
                    fdpr -q -O3
                    EXTRA_CFLAGS= -DINTS_PER_CACHELINE=32 -DDBLS_PER_CACHELINE=16
 332.ammp_m:        -qpdf1/pdf2
                   -O5 -qipa=partition=large -qmaxmem=-1 -q64 -btextpsize:64K -bdatapsize:64K

Peak sources:
   SPEC OMPL2001 source for 32bit systems modified for SPEC OMPM2001 used
   with 312.swim_m, 316.applu_m, 320.equake_m, 326.gafort_m.


The installed OS level is AIX 5L for POWER version 5.3 with the 5300-04 Recommended Maintenence package.
The installed C/C++ compiler is XL C/C++ Enterprise Edition Version 8.0 for AIX with the August 2006 PTF.
The installed Fortran copiler is XL Fortran Enterprise Edition Version 10.1 with the August 2006 AIX PTF.

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)
SUT:  Acronym for "System Under Test"
ESSL: Engineering and Scientific Subroutine Library
PTF:  IBM identifier for "Program Fix Level"

C:              IBM XL C for AIX invoked as xlc_r
Fortran 90:     IBM XL Fortran for AIX invoked as xlf_r

ulimits set to unlimited.
Large page mode and memory affinity were set as follows:
    vmo -r -o lgpg_regions=1024 -o lgpg_size=16777216
    chuser capabilities=CAP_BYPASS_RAC_VMM,CAP_PROPAGATE $USER
    bosboot -aD
    shutdown -rF
    export MEMORY_AFFINITY=MCM
```