OMPM2001 Result

IBM Corporation

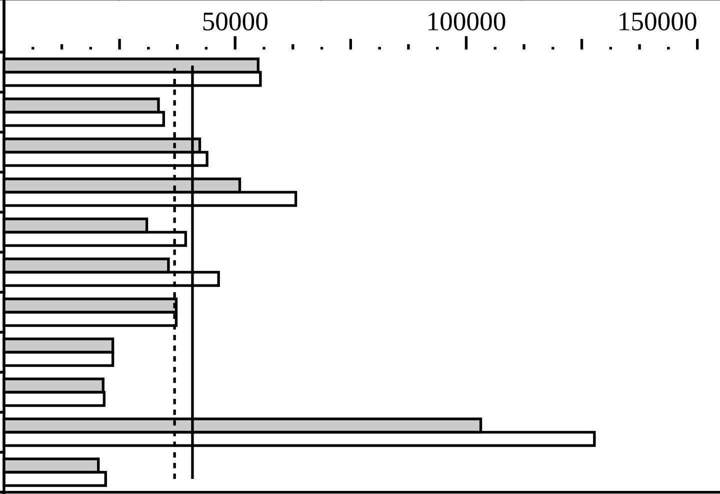
IBM System p 550 (4.2 GHz, 8 core, Red Hat)

SPECompMpeak2001 = 40773

SPECompMbase2001 = 36903

SPEC license #:	Tested by:	Test site:	Test date:	Hardware Avail:	Software Avail:
HPG0005	IBM	Austin, TX	Jan-2008	Feb-2008	Nov-2007

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio
310.wupwise_m	6000	109	54984	108	55475
312.swim_m	6000	180	33421	174	34539
314.mgrid_m	7300	172	42349	166	43933
316.applu_m	4000	78.4	51002	63.4	63133
318.galgel_m	5100	165	30896	130	39303
320.equake_m	2600	73.1	35580	56.0	46424
324.apsi_m	3400	91.2	37261	91.2	37261
326.gafort_m	8700	370	23541	370	23541
328.fma3d_m	4600	214	21447	212	21674
330.art_m	6400	62.0	103146	50.1	127734
332.ammp_m	7000	343	20417	318	21989



Hardware

CPU:	POWER6
CPU MHz:	4200
FPU:	Integrated
CPU(s) enabled:	8 cores, 4 chips, 2 cores/chip. 2 threads/core
CPU(s) orderable:	2,4,8 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:	32 MB I+D off chip per chip
Other Cache:	None
Memory:	64 GB (32x2 GB) DDR2 667 MHz
Disk Subsystem:	2x146 GB SAS 15K RPM
Other Hardware:	None

Software

OpenMP Threads:	16
Parallel:	OpenMP
Operating System:	Red Hat Enterprise Linux Advanced Platform 5.1 for IBM POWER
Compiler:	IBM XL C/C++ Advanced Edition for Linux, V9.0 IBM XL Fortran Advanced Edition for Linux, V11.1 Other Software: IBM Engineering and Scientific Subroutine Library for Linux on POWER, Version 4.3
File System:	ext3
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
   C:        -O5 -q32 -qsmp=omp
   FORTRAN:  -O5 -q32 -qsmp=omp

Base & Peak Environment Flags:
  ENV_OMP_NUM_THREADS = 16
  ENV_OMP_DYNAMIC=FALSE
  ENV_XLSMPOPTS=SPINS=0:YIELDS=0:STACK=8000000:STARTPROC=0:STRIDE=1
  ENV_XLFRTEOPTS=intrinthds=1


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


Peak Flags
  -qsmp=omp used in all cases
```

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Notes/Tuning Information (Continued)

```
   310.wupwise:    -O5 -q32
                   ENV_XLSMPOPTS=SPINS=0:YIELDS=0:STACK=8000000:STARTPROC=0:STRIDE=1
                   ENV_HUGETLB_MORECORE=yes
                   ENV_LD_PRELOAD=libhugetlbfs.so
   312.swim_m:     -O3 -q64
                   ENV_XLSMPOPTS=SPINS=0:YIELDS=0:STACK=8000000:STARTPROC=0:STRIDE=1
   314.mgrid_m:    -O4 -q64
                   ENV_XLSMPOPTS=SPINS=0:YIELDS=0:STACK=8000000:STARTPROC=0:STRIDE=1
   316.applu_m:    -O4 -q64
                   ENV_XLSMPOPTS=SPINS=0:YIELDS=0:STACK=8000000:STARTPROC=0:STRIDE=1
                   ENV_HUGETLB_MORECORE=yes
                   ENV_LD_PRELOAD=libhugetlbfs.so
   318.galgel_m:   -O5 -q64 -qessl
                   -B/usr/share/libhugetlbfs/ -tl -Wl,--hugetlbfs-link=BDT
                   EXTRA_LIBS=-lesslsmp
                   ENV_XLSMPOPTS=SPINS=0:YIELDS=0:STACK=8000000:STARTPROC=0:STRIDE=1
                   ENV_HUGETLB_MORECORE=yes
   320.equake_m:   -O5 -q64 -qpdf1/pdf2 -qhot=arraypad -Q
                   ENV_XLSMPOPTS=SPINS=0:YIELDS=0:STACK=8000000:STARTPROC=0:STRIDE=1
   324.apsi_m:     basepeak = 1
   326.gafort_m:   basepeak = 1
   328.fma3d_m:    -O5 -q64 -qhot=arraypad
                   ENV_XLSMPOPTS=SPINS=0:YIELDS=0:STACK=8000000:STARTPROC=0:STRIDE=1
   330.art_m:      -O3 -q32 -qhot=arraypad -Q
                   ENV_XLSMPOPTS=SPINS=0:YIELDS=0:STACK=8000000:STARTPROC=0:STRIDE=1
                   ENV_HUGETLB_MORECORE=yes
                   ENV_LD_PRELOAD=libhugetlbfs.so
   332.ammp_m:     -O5 -q64 -qhot=arraypad -Q
                   ENV_XLSMPOPTS=SPINS=0:YIELDS=0:STACK=8000000:STARTPROC=0:STRIDE=1
                   ENV_HUGETLB_MORECORE=yes
                   ENV_LD_PRELOAD=libhugetlbfs.so

 C:               IBM XL C for Linux invoked as xlc_r
 Fortran 90:      IBM XL Fortran for Linux invoked as xlf90_r

kernel release 2.6.18-53.el5.

ulimit -s (stack) set to unlimited.


System set to Enhanced mode when defining partition on HMC

Large pages reserved as follows by root user:
    echo 240 > /proc/sys/vm/nr_hugepages
System configured with libhugetlbfs library for application access to large pages

Use flags-description file IBM-20070718-Linux.txt
```