



OMPL2001 Result

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IBM Corporation
IBM Power 780 (3.86 GHz, 64 core, RedHat)

SPECompLpeak2001 = 1797211
SPECompLbase2001 = 1721106

SPEC license #HPG0005 | Tested by: IBM | Test site: Austin, TX | Test date: Oct-2010 | Hardware Avail: Mar-2010 | Software Avail: Nov-2010

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio
311.wupwise_l	9200	72.7	2023843	72.7	2023843
313.swim_l	12500	86.1	2324093	86.1	2324093
315.mgrid_l	13500	157	1375331	132	1636416
317.applu_l	13500	101	2134212	101	2134212
321.quake_l	13000	171	1214853	171	1214853
325.apsi_l	10500	191	880440	189	888240
327.gafort_l	11000	147	1200683	131	1340418
329.fma3d_l	23500	359	1048368	353	1064014
331.art_l	25000	56.1	7128988	51.7	7737269

Hardware	Software
CPU: POWER7 CPU MHz: 3860 FPU: Integrated CPU(s) enabled: 64 cores, 8 chips, 8 cores/chip, 4 threads/core CPU(s) orderable: 8,16,24,32,48,64 cores Primary Cache: 32 KB I + 32 KB D on chip per core Secondary Cache: 256 KB I+D on chip per core L3 Cache: 4 MB I+D on chip per core Other Cache: None Memory: 512 GB (64x8 GB) DDR3 1066 MHz Disk Subsystem: 1 x 146.8 GB SAS SFF 15K RPM Other Hardware: None	OpenMP Threads: 256 Parallel: OpenMP Operating System: Red Hat Enterprise Linux Server release 6.0 (ppc64) Kernel 2.6.32-71.el6.ppc64 Compiler: IBM XL C/C++ for Linux, V11.1 Updated with the Nov2010 PTF IBM XL Fortran for Linux, V13.1 Updated with the Nov2010 PTF File System: ext3 System State: Run level 3 (multi-user)

Notes/Tuning Information

Portability Flags & Environment Variables

-qfixed used in: 311.wupwise_l, 313.swim_l, 315.mgrid_l, 317.applu_l, 325.apsi_l
-qsuffix=f=f90 used in: 327.gafort_l, 329.fma3d_l

Base Flags

C: -q64 -O5 -qsmp=omp
FORTRAN: -q64 -O5 -qsmp=omp

Base & Peak User Environment:

OMP_NUM_THREADS = 128
OMP_DYNAMIC=FALSE
XLSPMPTS=SPINS=0:YIELDS=0:STACK=8000000:STARTPROC=0:PROCS=0,1,4,5,8,9,12,13,16,17,20,21,24,25,28,29,32,33,36,37,40,41,44,45,48,49,52,53,56,57,60,61,64,65,68,69,72,73,76,77,80,81,84,85,88,89,92,93,96,97,100,101,104,105,108,109,112,113,116,117,120,121,124,125,128,129,132,133,136,137,140,141,144,145,148,149,152,153,156,157,160,161,164,165,168,169,172,173,176,177,180,181,184,185,188,189,192,193,196,197,200,201,204,205,208,209,212,213,216,217,220,221,224,225,228,229,232,233,236,237,240,241,244,245,248,249,252,253

XLFRTEOPTS=intrinthds=1

Peak Flags

-q64 used in all cases
-qsmp=omp used in all cases



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Notes/Tuning Information (Continued)

```
311.wupwise_l: basepeak=1
313.swim_l:    basepeak=1
315.mgrid_l:  -04
              XLSMPOPTS=SPINS=0:YIELDS=0:STACK=8000000:STARTPROC=0:STRIDE=4
              OMP_NUM_THREADS = 64
317.applu_l:  basepeak=1
321.quake_l:  basepeak=1
325.apsi_l:   -03
327.gafort_l: -05 -qhot=arraypad -Q
              XLSMPOPTS=SPINS=0:YIELDS=0:STACK=8000000:STARTPROC=0:STRIDE=1
              OMP_NUM_THREADS = 256
329.fma3d_l:  -04
331.art_l:    -05 -qhot=arraypad
              XLSMPOPTS=SPINS=0:YIELDS=0:STACK=8000000:STARTPROC=0:STRIDE=1
              OMP_NUM_THREADS = 256
```

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

Use flags-description file IBM-20100816-Linux.txt

ulimit -s (stack) set to 1048576.

Intelligent Energy Optimization enabled, up to 3.94 GHz