



OMPM2001 Result

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IBM Corporation

IBM eServer OpenPower 710 (1650 MHz, 2CPU, Linux)

SPECompMpeak2001 = 5282

SPECompMbase2001 = 4930

SPEC license #HPG0005 | Tested by: IBM | Test site: Austin, TX | Test date: Jan-2005 | Hardware Avail: Feb-2005 | Software Avail: Oct-2004

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio	
310.wupwise_m	6000	916	6549	921	6516	
312.swim_m	6000	1536	3906	1537	3905	
314.mgrid_m	7300	2786	2621	2023	3609	
316.applu_m	4000	809	4942	797	5020	
318.galgel_m	5100	425	12002	343	14855	
320.quake_m	2600	603	4310	497	5227	
324.apsi_m	3400	673	5052	676	5029	
326.gafort_m	8700	1771	4914	1778	4894	
328.fma3d_m	4600	1539	2989	1583	2907	
330.art_m	6400	550	11641	555	11541	
332.ammp_m	7000	2480	2822	2318	3019	

Hardware

CPU: POWER5
 CPU MHz: 1650
 FPU: Integrated
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip (SMT on)
 CPU(s) orderable: 1, 2
 Primary Cache: 64KBI+32KBD (on chip)/core
 Secondary Cache: 1920KB unified (on chip)/chip
 L3 Cache: 36MB unified (off-chip)/DCM, IDC/SUT
 Other Cache: none
 Memory: 8x4 GB
 Disk Subsystem: 1x73GB SCSI, 15K RPM
 Other Hardware: none

Software

OpenMP Threads: 4
 Parallel: OpenMP
 Operating System: SUSE LINUX Enterprise Server 9 for IBM POWER
 Compiler: XL Fortran Enterprise Edition Version 9.1 for Linux
 XL C/C++ Enterprise Edition Version 7.0 for Linux
 Other Software: IBM ESSL for Linux on Power,
 Version 4 release 2
 File System: ext2
 System State: Multi-user, run level 3

Notes/Tuning Information

Tested by IBM Corporation

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
 export XLFRTOPTIONS=NAMELIST=OLD used in: 326.gafort_m

Base Flags

C: -O5 -q64 -qipa=partition=large -qmaxmem=-1 -qsmp=omp
 FORTRAN:-O5 -q32 -qipa=partition=large -qmaxmem=-1 -qsmp=omp

Base & Peak User Environment:

OMP_NUM_THREADS=4
 OMP_DYNAMIC=FALSE
 XLSMPOPTS=SPINS=0:YIELDS=0:STACK=8000000:SCHEDULE=STATIC
 MALLOCMULTIHEAP=1
 Stack size set to unlimited using the command "ulimit -s unlimited".

Peak Flags

-qsmp=omp used in all cases
 310.wupwise_m: -O5 -q64 -qipa=partition=large -qmaxmem=-1
 312.swim_m: -O5 -q32 -qhot -qarch=pwr5 -qtune=pwr5
 314.mgrid_m: -O5 -q64 -qipa=partition=large -qmaxmem=-1



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Notes/Tuning Information (Continued)

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"Fortran compiler invoked as /opt/ibmcmp/xlf/9.1/bin/xlf_r"
316.applu_m: -O5 -q32 -qarch=pwr5 -qtune=pwr5
318.galgel_m: -O5 -q64 -qipa=partition=large -qmaxmem=-1 -qessl -lesslsmp
320.earthquake_m: -O5 -q32 -qarch=pwr5 -qtune=pwr5 -qhot=arraypad -Q
324.apsi_m: -O4 -q32 -qarch=pwr5 -qtune=pwr5
-qipa=partition=large -qmaxmem=-1
326.gafort_m: -O5 -q32 -qhot=arraypad
-qipa=partition=large -qmaxmem=-1
328.fma3d_m: -O5 -q64 -qalign=natural -qhot=arraypad -qipa=noobject
-qipa=partition=large -qmaxmem=-1
330.art_m: -O4 -q64 -qhot
332.ammp_m: -O5 -q32 -qhot=arraypad -Q
```

Alternate sources:

Approved src.alt available as ompm-purdue1-20040324.tar.gz
Used for 330.art_m, base and peak.

Peak sources:

SPEC OMPL2001 source for 32bit systems modified for SPEC OMPM2001 used
with 312.swim_m, 316.applu_m, 320.earthquake_m, 326.gafort_m
Available as omp1.32 src.alt in SPEC OMP v3.0.

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 "Dual-Chip Module" (one dual-core processor chip + one L3-cache chip)

SUT: Acronym for "System Under Test"

ESSL: Engineering and Scientific Subroutine Library

C: IBM XL C for Linux invoked as xlc_r

Fortran 90 and 77: IBM XL Fortran for Linux invoked as xlf90_r, except as noted.

Flag file: IBM-20050209-Linux.txt