OMPM2001 Result

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IBM Corporation

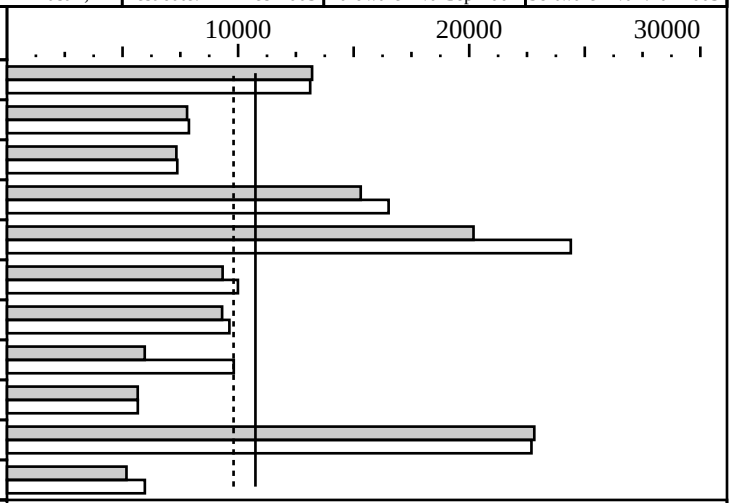
IBM eServer OpenPower 720 (1650 MHz, 4CPU, Linux)

SPECompMpeak2001 = 10750

SPECompMbase2001 = 9804

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio
310.wupwise_m	6000	455	13201	457	13119
312.swim_m	6000	770	7792	762	7872
314.mgrid_m	7300	996	7329	991	7368
316.applu_m	4000	261	15305	242	16512
318.galgel_m	5100	253	20186	209	24396
320.equake_m	2600	279	9329	260	9992
324.apsi_m	3400	365	9308	353	9623
326.gafort_m	8700	1460	5960	887	9812
328.fma3d_m	4600	813	5656	813	5660
330.art_m	6400	281	22816	282	22693
332.ammp_m	7000	1354	5170	1174	5964



Hardware

CPU:	POWER5
CPU MHz:	1650
FPU:	Integrated
CPU(s) enabled:	4 cores, 2 chips, 2 cores/chip (SMT ON)
CPU(s) orderable:	2,4
Primary Cache:	64KBI+32KBD (on chip)/core
Secondary Cache:	1920KB unified (on chip)/chip
L3 Cache:	36MB unified (off chip)/DCM, 2DCM/SUT
Other Cache:	None
Memory:	16x2 GB
Disk Subsystem:	1x36GB SCSI, 10K RPM
Other Hardware:	None

Software

OpenMP Threads:	8
Parallel:	OpenMP
Operating System:	Red Hat Enterprise Linux AS 4
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

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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 XLFRTEOPTS=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=8
   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.equake_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.equake_m, 326.gafort_m
  Available as ompl.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
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