



SPEC® CINT2006 Result

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IBM Corporation

SPECint®_rate2006 = 84.7

IBM BladeCenter JS22 (4.0 GHz, 4 core)

SPECint_rate_base2006 = 77.8

CPU2006 license: 11

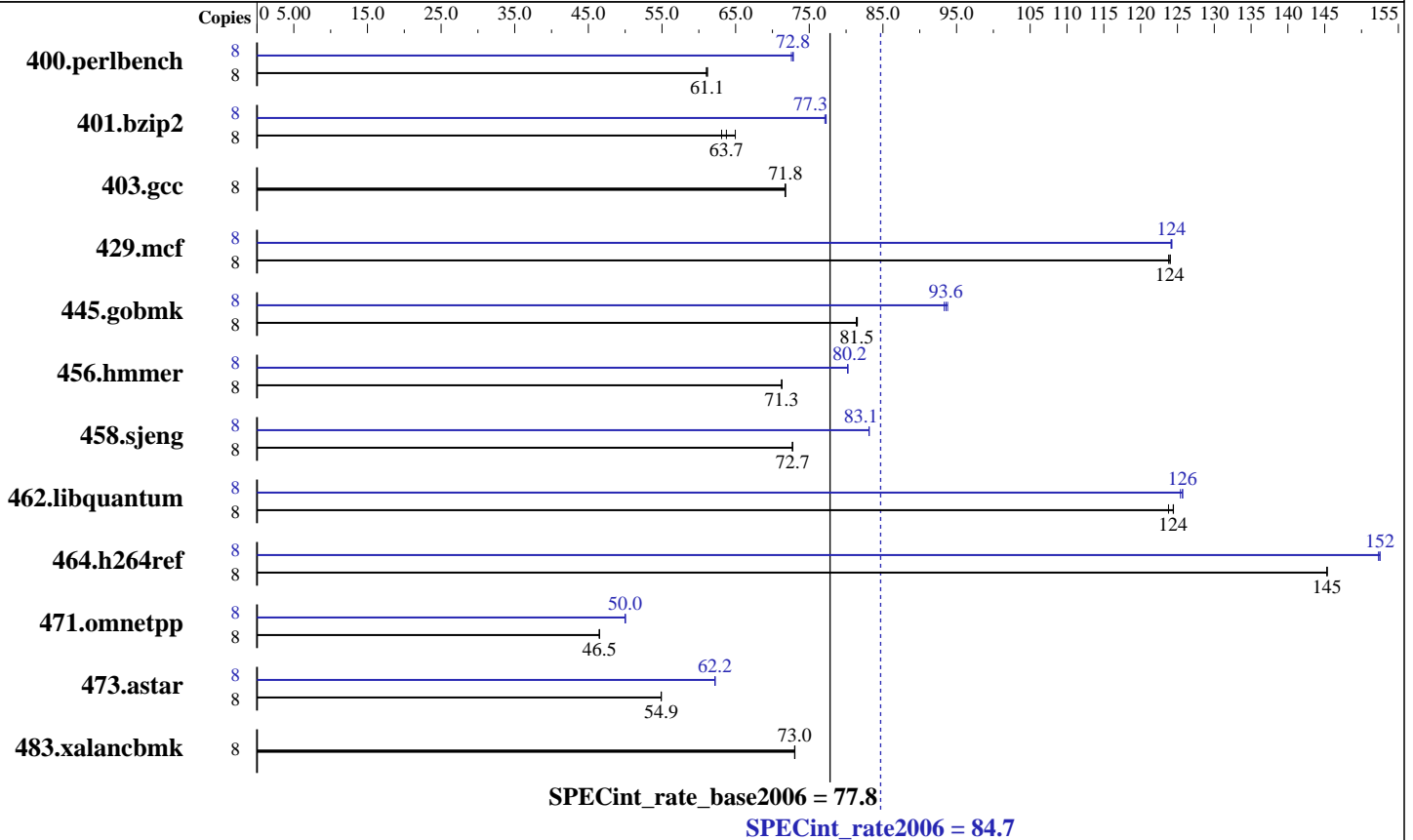
Test date: Oct-2007

Test sponsor: IBM Corporation

Hardware Availability: Nov-2007

Tested by: IBM Corporation

Software Availability: Nov-2007



Hardware

CPU Name: POWER6
 CPU Characteristics: 4000
 CPU MHz: 4000
 FPU: Integrated
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip, 2 threads/core
 CPU(s) orderable: 4 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: None
 Other Cache: None
 Memory: 16 GB (4x4 GB) DDR2 667 MHz
 Disk Subsystem: 1x146 GB SAS 15K RPM
 Other Hardware: None

Software

Operating System: IBM AIX 5L V5.3
 Compiler: XL C/C++ Enterprise Edition Version 9.0 for AIX
 Auto Parallel: No
 File System: AIX/JFS2
 System State: Multi-user
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: None



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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	8	1281	61.0	1278	61.1	1278	61.2	8	1077	72.6	1074	72.8	1073	72.8
401.bzip2	8	1211	63.7	1188	65.0	1224	63.1	8	999	77.3	1001	77.1	999	77.3
403.gcc	8	898	71.7	897	71.8	897	71.8	8	898	71.7	897	71.8	897	71.8
429.mcf	8	588	124	588	124	589	124	8	587	124	588	124	588	124
445.gobmk	8	1029	81.5	1030	81.5	1031	81.4	8	899	93.3	897	93.6	895	93.8
456.hammer	8	1048	71.2	1047	71.3	1047	71.3	8	930	80.2	931	80.2	930	80.2
458.sjeng	8	1331	72.7	1331	72.7	1331	72.7	8	1165	83.1	1164	83.1	1164	83.1
462.libquantum	8	1339	124	1332	124	1332	124	8	1319	126	1322	125	1319	126
464.h264ref	8	1218	145	1218	145	1219	145	8	1161	153	1162	152	1161	152
471.omnetpp	8	1076	46.5	1075	46.5	1075	46.5	8	999	50.0	1001	50.0	1000	50.0
473.astar	8	1023	54.9	1023	54.9	1023	54.9	8	903	62.2	903	62.2	903	62.2
483.xalancbmk	8	756	73.0	756	73.1	756	73.0	8	756	73.0	756	73.1	756	73.0

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

General Notes

AIX 5L V5.3 updated with the 5300-07 Technology Level.
IBM XL Compilers updated to October 2007 PTF Level.

See flags file for details on following settings:

all ulimits set to unlimited

Environment variables set before executing benchmarks:

MALLOCOPTIONS=pool

MEMORY_AFFINITY=MCM

768 pages of size 16M defined on systems with vmo command

fdpr binary optimization tool used for peak versions of:

429.mcf, 456.hammer, 458.sjeng, 462.libquantum, 473.astar

submit used to bind benchmark to a processor using "bindprocessor"

The binaries were compiled on a system with 32 GB of memory.

Base Compiler Invocation

C benchmarks:

/usr/vac/bin/xlc

C++ benchmarks:

/usr/vacpp/bin/xlC



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Base Portability Flags

400.perlbench: -DSPEC_CPU_AIX
462.libquantum: -DSPEC_CPU_AIX
464.h264ref: -DSPEC_CPU_AIX -qchars=signed
483.xalancbmk: -DSPEC_CPU_AIX

Base Optimization Flags

C benchmarks:
-qlanglvl=extc99 -bmaxdata:0x50000000 -O5 -qalias=noansi -qalloca
-blpdata

C++ benchmarks:
-bmaxdata:0x20000000 -O5 -qrtti=all -blpdata

Base Other Flags

C benchmarks:
-qipa=noobject -qsuppress=1506-1298 -qsuppress=1500-036 -qipa=threads

C++ benchmarks:
-qipa=noobject -qsuppress=1586-267 -qsuppress=1586-234
-qsuppress=1586-233 -qsuppress=1540-2907 -qsuppress=1540-1608
-qsuppress=1540-1604 -qsuppress=1540-1102 -qsuppress=1540-0802
-qsuppress=1500-036 -qsuppress=1500-029 -qsuppress=1500-010
-qipa=threads

Peak Compiler Invocation

C benchmarks:
/usr/vac/bin/xlc

C++ benchmarks:
/usr/vacpp/bin/xlc

Peak Portability Flags

400.perlbench: -DSPEC_CPU_AIX
462.libquantum: -DSPEC_CPU_AIX
464.h264ref: -DSPEC_CPU_AIX -qchars=signed
483.xalancbmk: -DSPEC_CPU_AIX



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Peak Optimization Flags

C benchmarks:

400.perlbench: -qlanglvl=extc99 -qpdf1(pass 1) -qpdf2(pass 2) -O4
-qlargepage -qenablevmx -qalias=noansi
-bmaxdata:0x50000000 -blpdata

401.bzip2: -qlanglvl=extc99 -qpdf1(pass 1) -qpdf2(pass 2) -O5
-qlargepage -bmaxdata:0x4ffffffc -blpdata

403.gcc: basepeak = yes

429.mcf: -qlanglvl=extc99 -O5 -qfdpr -qlargepage
-bmaxdata:0x50000000 -blpdata

445.gobmk: -qlanglvl=extc99 -qpdf1(pass 1) -qpdf2(pass 2) -O5
-qlargepage -qstrict -blpdata

456.hmmer: -qlanglvl=extc99 -O5 -qfdpr -q64 -qlargepage -qenablevmx
-qvecnvoll -blpdata

458.sjeng: -qlanglvl=extc99 -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qfdpr
-qlargepage -blpdata

462.libquantum: -qlanglvl=extc99 -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qfdpr
-q64 -qlargepage -blpdata

464.h264ref: -qlanglvl=extc99 -qpdf1(pass 1) -qpdf2(pass 2) -O5
-qlargepage -blpdata

C++ benchmarks:

471.omnetpp: -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qinlglue
-qalign=natural -qlargepage -qrtti=all
-bmaxdata:0x20000000 -blpdata

473.astar: -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qfdpr -qinlglue
-qalign=natural -qlargepage -bmaxdata:0x20000000 -blpdata

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks (except as noted below):

-qipa=threads -qsuppress=1500-036

403.gcc: -qipa=noobject -qsuppress=1506-1298 -qsuppress=1500-036
-qipa=threads

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Peak Other Flags (Continued)

C++ benchmarks (except as noted below):

-qipa=threads -qsuppress=1500-036

483.xalancbmk: -qipa=noobject -qsuppress=1586-267 -qsuppress=1586-234
-qsuppress=1586-233 -qsuppress=1540-2907
-qsuppress=1540-1608 -qsuppress=1540-1604
-qsuppress=1540-1102 -qsuppress=1540-0802
-qsuppress=1500-036 -qsuppress=1500-029 -qsuppress=1500-010
-qipa=threads

The flags file that was used to format this result can be browsed at

http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.08.html

You can also download the XML flags source by saving the following link:

http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.08.xml

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For other inquiries, please contact webmaster@spec.org.

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