



SPEC® CINT2006 Result

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IBM Corporation

SPECint®_rate2006 = 240

IBM System i 570 (4.7 GHz, 8 core)

SPECint_rate_base2006 = 206

CPU2006 license: 11

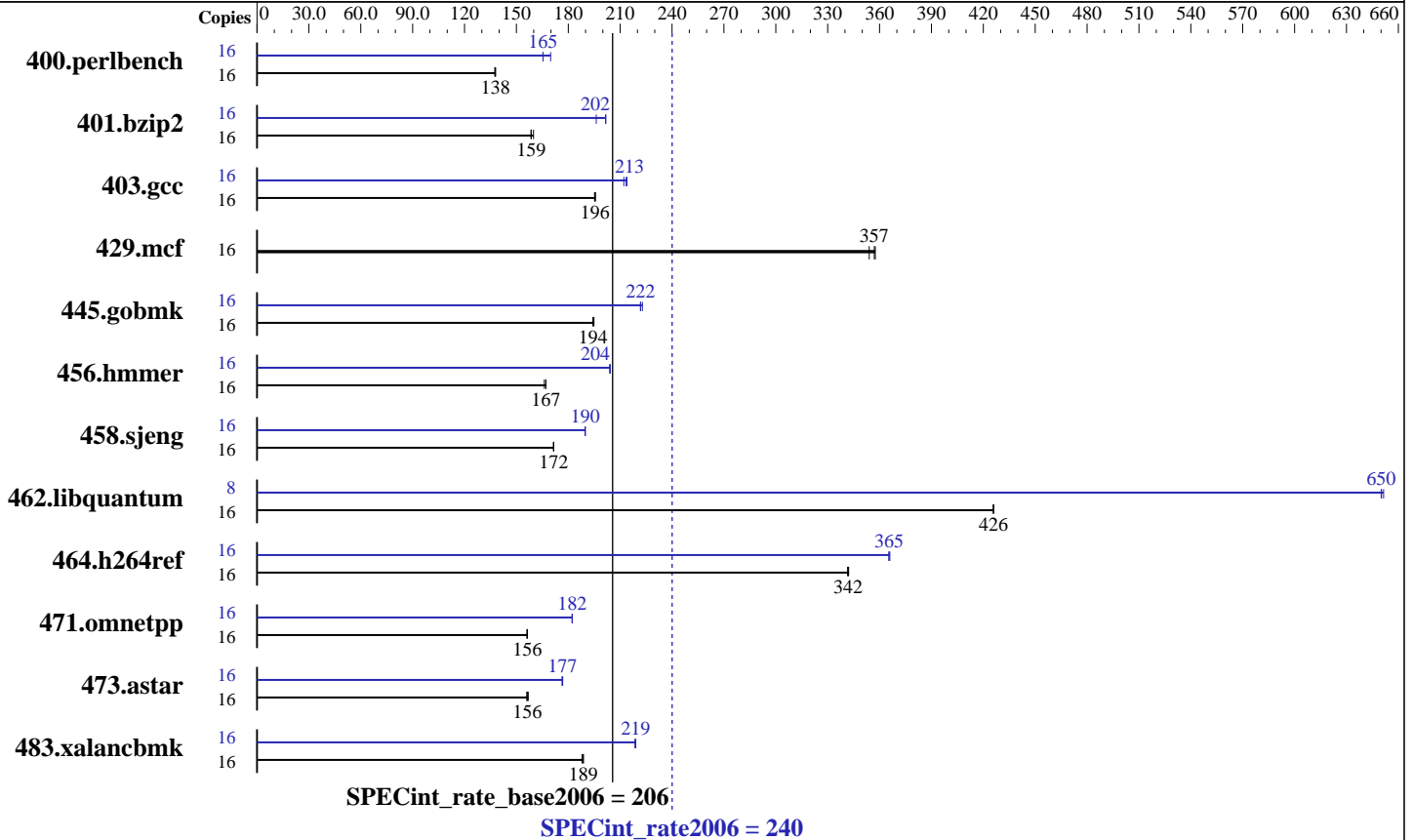
Test date: May-2007

Test sponsor: IBM Corporation

Hardware Availability: Sep-2007

Tested by: IBM Corporation

Software Availability: Jun-2007



Hardware

CPU Name: POWER6
 CPU Characteristics:
 CPU MHz: 4700
 FPU: Integrated
 CPU(s) enabled: 8 cores, 4 chips, 2 cores/chip, 2 threads/core
 CPU(s) orderable: 4,8,12,16 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: 2x73 GB 2x146 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: --



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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	16	1134	138	1137	137	1134	138	16	945	165	945	165	921	170
401.bzip2	16	974	158	974	159	966	160	16	787	196	766	202	766	202
403.gcc	16	658	196	659	196	660	195	16	603	213	607	212	602	214
429.mcf	16	412	354	409	357	408	358	16	412	354	409	357	408	358
445.gobmk	16	864	194	861	195	863	194	16	753	223	757	222	756	222
456.hmmmer	16	898	166	894	167	893	167	16	732	204	731	204	731	204
458.sjeng	16	1129	172	1129	171	1128	172	16	1021	190	1020	190	1020	190
462.libquantum	16	778	426	778	426	779	426	8	255	650	254	651	255	650
464.h264ref	16	1037	342	1036	342	1035	342	16	969	365	968	366	969	365
471.omnetpp	16	640	156	640	156	641	156	16	549	182	549	182	549	182
473.astar	16	718	156	720	156	716	157	16	636	177	637	176	635	177
483.xalancbmk	16	587	188	585	189	585	189	16	505	219	504	219	504	219

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 5300-06 Technology Level.

See flags file of details on following settings.

all ulimits set to unlimited

Environment variables set before executing benchmarks:

MALLOCOPTIONS=pool

MEMORY_AFFINITY=MCM

XLFRTEOPTS=intrinths=1

System set to "Enhanced" mode when defining partition on HMC

3072 16M pages defined on systems with vmo command

fdpr binary optimization tool used for

401.bzip2 403.gcc 429.mcf 456.hmmmer 462.libquantum 473.astar

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

The "IBM System p 570" and "IBM System i 570" are electronically equivalent.

The results have been measured on the "IBM System p 570" model.

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:
-O5 -qlargepage -D_ILS_MACROS -qalloca -blpdata
C++ benchmarks:
-O5 -qlargepage -D_ILS_MACROS -qrtti=all -blpdata

Base Other Flags

C benchmarks:
-qlanglvl=extc99 -bmaxdata:0x50000000 -qalias=noansi -qipa=noobject
-qipa=threads -qsuppress=1500-036
C++ benchmarks:
-bmaxdata:0x20000000 -qipa=noobject -qipa=threads -qsuppress=1500-036

Peak Compiler Invocation

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

Peak Portability Flags

400.perlbench: -DSPEC_CPU_AIX
403.gcc: -DSPEC_CPU_LP64
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: -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage -qenablevmx
-qvecnvml -D_ILS_MACROS -blpdata

401.bzip2: Same as 400.perlbench

403.gcc: -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage
-D_ILS_MACROS -qalloca -q64 -blpdata

429.mcf: basepeak = yes

445.gobmk: Same as 400.perlbench

456.hmmer: -O5 -qlargepage -D_ILS_MACROS -blpdata

458.sjeng: -qpdf1(pass 1) -qpdf2(pass 2) -O4 -qlargepage -qenablevmx
-qvecnvml -D_ILS_MACROS -blpdata

462.libquantum: -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage -qenablevmx
-qvecnvml -D_ILS_MACROS -q64 -blpdata

464.h264ref: -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage
-D_ILS_MACROS -blpdata

C++ benchmarks:

471.omnetpp: -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage -qenablevmx
-qvecnvml -D_ILS_MACROS -qalign=natural -qrtti=all
-qinlglue -blpdata

473.astar: -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage -qenablevmx
-qvecnvml -D_ILS_MACROS -blpdata

483.xalancbmk: -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage
-D_ILS_MACROS -qinlglue -D__IBM_FAST_VECTOR -blpdata

Peak Other Flags

C benchmarks (except as noted below):

-qlanglvl=extc99 -qipa=noobject -qipa=threads -qsuppress=1500-036

400.perlbench: -qlanglvl=extc99 -bmaxdata:0x50000000 -qalias=noansi
-qipa=noobject -qipa=threads -qsuppress=1500-036

401.bzip2: -qlanglvl=extc99 -bmaxdata:0x4ffffffc -qipa=noobject
-qipa=threads -qsuppress=1500-036

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Peak Other Flags (Continued)

429.mcf: -qlanglvl=extc99 -bmaxdata:0x50000000 -qalias=noansi
-qipa=noobject -qipa=threads -qsuppress=1500-036

C++ benchmarks:

-bmaxdata:0x20000000 -qipa=noobject -qipa=threads -qsuppress=1500-036

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

http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.12.html

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

http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.12.xml

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

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