



SPEC® CINT2006 Result

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IBM Corporation

SPECint®_rate2006 = 212

IBM System p 550 (4.2 GHz, 8 core)

SPECint_rate_base2006 = 179

CPU2006 license: 11

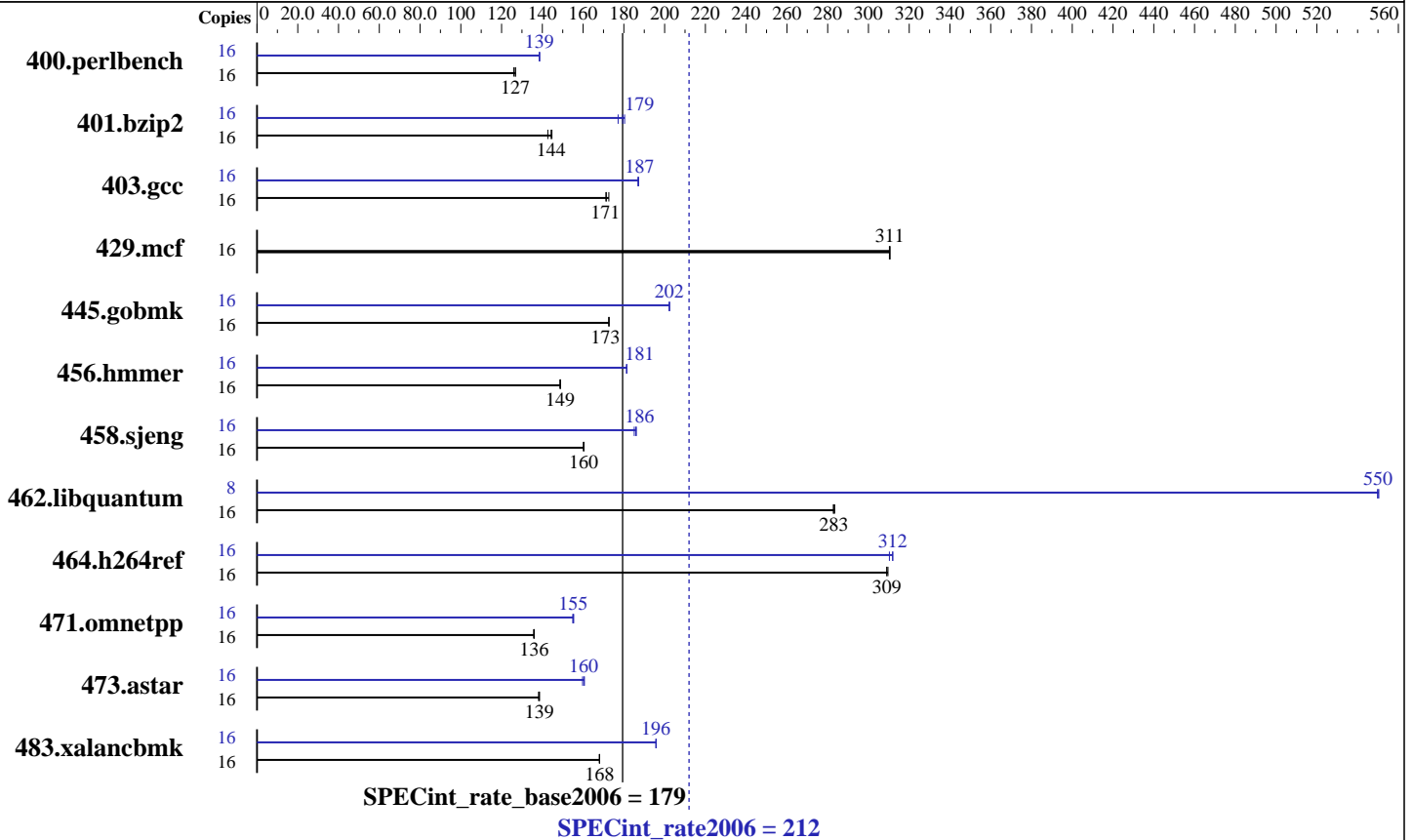
Test date: Jan-2008

Test sponsor: IBM Corporation

Hardware Availability: Feb-2008

Tested by: IBM Corporation

Software Availability: Feb-2008



Hardware

CPU Name: POWER6
 CPU Characteristics:
 CPU MHz: 4200
 FPU: Integrated
 CPU(s) enabled: 8 cores, 4 chips, 2 cores/chip, 2 threads/core
 CPU(s) orderable: 2,4,6,8 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: 1x73 GB 1x146 GB SAS 15K RPM
 Other Hardware: None

Software

Operating System: IBM AIX V6.1 Updated to SP3
 Compiler: XL C/C++ Enterprise Edition V9 for AIX Updated with the Oct2007 PTF.
 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	1241	126	1233	127	1233	127	16	1129	138	1128	139	1127	139
401.bzip2	16	1082	143	1067	145	1070	144	16	871	177	856	180	861	179
403.gcc	16	752	171	751	171	746	173	16	688	187	689	187	689	187
429.mcf	16	470	310	470	311	470	311	16	470	310	470	311	470	311
445.gobmk	16	972	173	972	173	972	173	16	830	202	830	202	829	202
456.hammer	16	1005	149	1002	149	1003	149	16	823	181	823	181	823	181
458.sjeng	16	1209	160	1208	160	1207	160	16	1042	186	1040	186	1046	185
462.libquantum	16	1170	283	1172	283	1172	283	8	302	550	301	550	301	550
464.h264ref	16	1144	310	1146	309	1146	309	16	1135	312	1135	312	1141	310
471.omnetpp	16	737	136	735	136	735	136	16	644	155	644	155	646	155
473.astar	16	811	139	811	139	813	138	16	700	160	699	161	703	160
483.xalancbmk	16	657	168	657	168	657	168	16	564	196	564	196	564	196

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

General Notes

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=intrinthds=1

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

bindprocessor command used on submit to bind each copy to a unique processor.

2000 16M large pages defined with vmo command

Remote console disabled in /etc/inittab.

fdpr binary optimization tool used for:

400.perlbench 401.bzip2 403.gcc 429.mcf 456.hammer

458.sjeng 462.libquantum 464.h264ref 473.astar

Base Compiler Invocation

C benchmarks:

/usr/vac/bin/xlc -qlanglvl=extc99

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:
-bmaxdata:0x50000000 -O5 -qlargepage -D_ILS_MACROS -qalias=noansi
-qalloca -blpdata

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

Base Other Flags

```
C benchmarks:
-qipa=noobject -qipa=threads -qsuppress=1500-036

C++ benchmarks:
-qipa=noobject -qipa=threads -qsuppress=1500-036
```

Peak Compiler Invocation

```
C benchmarks:
/usr/vac/bin/xlc -qlanglvl=extc99

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: -bmaxdata:0x50000000 -qpdf1(pass 1) -qpdf2(pass 2) -O4
 -qlargepage -qenablevmx -qvecnvml -D_ILS_MACROS
 -qalias=noansi -qfdpr -blpdata

401.bzp2: -bmaxdata:0x4ffffffc -qpdf1(pass 1) -qpdf2(pass 2) -O5
 -qlargepage -qenablevmx -qvecnvml -D_ILS_MACROS -qfdpr
 -blpdata

403.gcc: -qpdf1(pass 1) -qpdf2(pass 2) -O4 -qlargepage
 -D_ILS_MACROS -qalloca -qfdpr -q64 -blpdata

429.mcf: basepeak = yes

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

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

458.sjeng: -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage -qenablevmx
 -qvecnvml -D_ILS_MACROS -qfdpr -blpdata

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

464.h264ref: -qpdf1(pass 1) -qpdf2(pass 2) -O5 -q64 -D_ILS_MACROS
 -qenablevmx -qvecnvml -qfdpr -bdatapsize:64K
 -bstacksize:64K -btextsize:64K

C++ benchmarks:

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

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

483.xalancbmk: -bmaxdata:0x20000000 -qpdf1(pass 1) -qpdf2(pass 2) -O5
 -qlargepage -D_ILS_MACROS -qinlglue -D__IBM_FAST_VECTOR
 -blpdata

Peak Other Flags

C benchmarks:

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

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Peak Other Flags (Continued)

C++ benchmarks:

-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.20090714.05.html

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

http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.05.xml

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

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