SPEC® CINT2006 Result

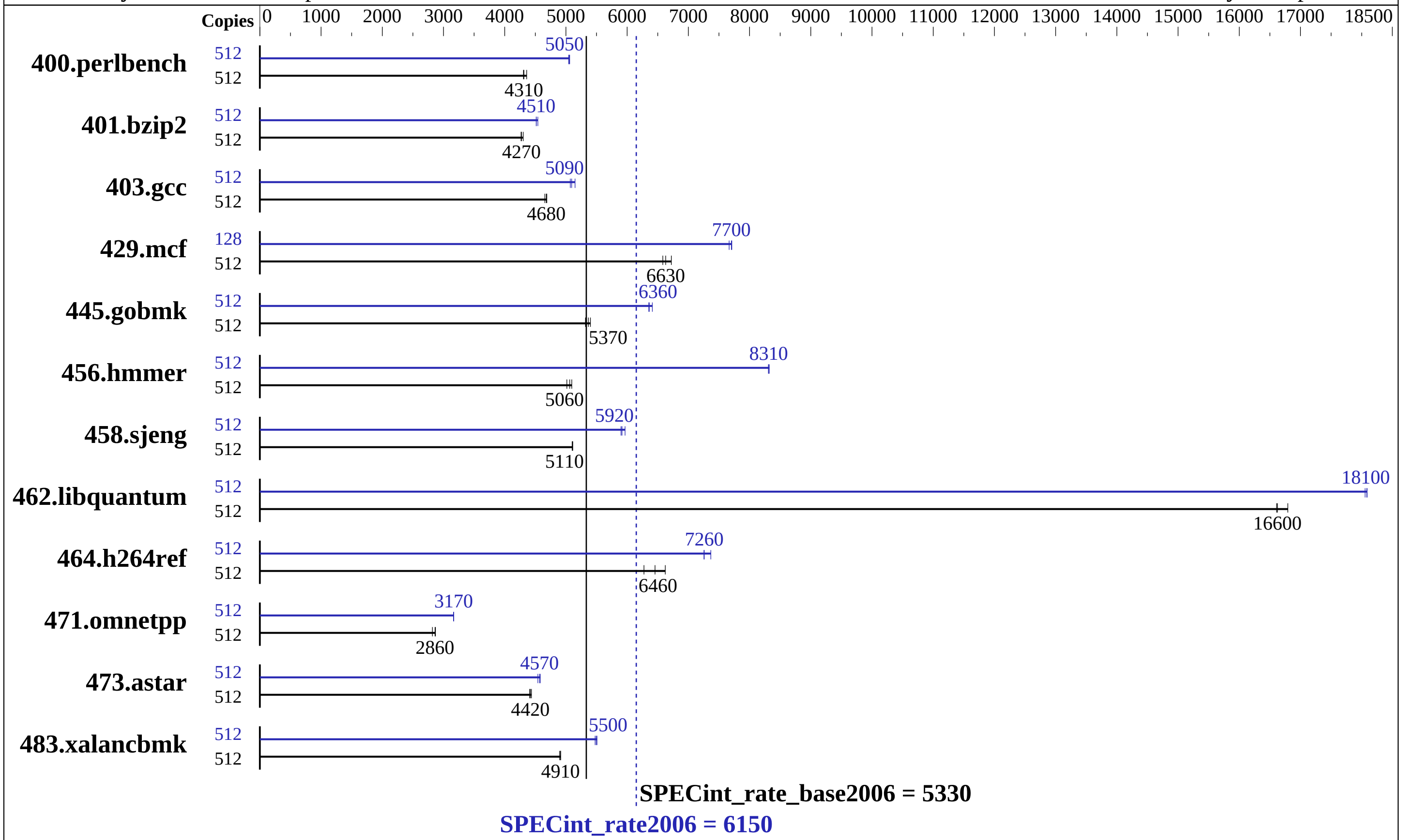
IBM Corporation

SPECint®_rate2006 = 6150

IBM Power 795 (4.25 GHz, 128 core)

SPECint_rate_base2006 = 5330

CPU2006 license:	11	**Test date:**	Aug-2010
Test sponsor:	IBM Corporation	**Hardware Availability:**	Sep-2010
Tested by:	IBM Corporation	**Software Availability:**	Sep-2010



Hardware

CPU Name:	POWER7
CPU Characteristics:	TurboCore mode
CPU MHz:	4256
FPU:	Integrated
CPU(s) enabled:	128 cores, 32 chips, 4 cores/chip, 4 threads/core
CPU(s) orderable:	48 - 128 cores
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core
L3 Cache:	4 MB I+D on chip per core
Other Cache:	16 MB I+D on chip per chip
Memory:	2 TB (256 x 8 GB) DDR3 1066 MHz
Disk Subsystem:	38 x 146.8 GB Raid0 SAS SFF 15K RPM
Other Hardware:	None

Software

Operating System:	IBM AIX V7.1
Compiler:	IBM XL C/C++ for AIX, V11.1 Version: 11.01.0000.0002
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	512	**1160**	**4310**	1162	4310	1148	4360	512	**990**	**5050**	991	5050	988	5060
401.bzip2	512	**1156**	**4270**	1149	4300	1158	4270	512	1088	4540	1094	4510	**1094**	**4510**
403.gcc	512	885	4660	**881**	**4680**	879	4690	512	813	5070	**809**	**5090**	800	5150
429.mcf	512	709	6580	**704**	**6630**	695	6720	128	152	7670	151	7710	**152**	**7700**
445.gobmk	512	**1001**	**5370**	995	5400	1010	5320	512	845	6350	838	6410	**844**	**6360**
456.hmmer	512	**944**	**5060**	953	5020	937	5100	512	**575**	**8310**	575	8310	574	8320
458.sjeng	512	1212	5110	1214	5100	**1213**	**5110**	512	1038	5970	1050	5900	**1047**	**5920**
462.libquantum	512	632	16800	**638**	**16600**	639	16600	512	**587**	**18100**	586	18100	588	18100
464.h264ref	512	1806	6280	**1755**	**6460**	1711	6620	512	**1561**	**7260**	1538	7370	1562	7250
471.omnetpp	512	1116	2870	**1118**	**2860**	1135	2820	512	1010	3170	1011	3160	**1010**	**3170**
473.astar	512	**813**	**4420**	815	4410	810	4440	512	**787**	**4570**	791	4540	785	4580
483.xalancbmk	512	719	4910	**719**	**4910**	722	4900	512	**643**	**5500**	645	5480	641	5510

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

Peak Tuning Notes

```
fdpr binary optimization tool used for 401.bzip2
 with options -O4 -sdp 9 -rtb -vrox -nodp -m power7
fdpr binary optimization tool used for 403.gcc
 with options -O3 -m power7
fdpr binary optimization tool used for 429.mcf
 with options -O3 -m power7
fdpr binary optimization tool used for 445.gobmk
 with options -O3 -m power7
fdpr binary optimization tool used for 456.hmmer
 with options -O3 -lu -1 -nodp -sdp 9 -m power7
fdpr binary optimization tool used for 458.sjeng
 with options -O3 -m power7
fdpr binary optimization tool used for 462.libquantum
 with options -O4 -nodp -m power7
fdpr binary optimization tool used for 471.omnetpp
 with options -O4 -nodp -m power7 -vrox
fdpr binary optimization tool used for 473.astar
 with options -O4 -sdp 9 -vrox -dp -m power7
```

Submit Notes

```
The config file option 'submit' was used
to assign benchmark copy to specific kernel thread using
the "bindprocessor" command (see flags file for details).
```

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Operating System Notes

```
all ulimits set to unlimited.
84600 16M large pages defined with vmo command
```

General Notes

```
Environment variables set by runspec before the start of the run:
MALLOCOPTIONS = "pool"
MEMORY_AFFINITY = "MCM"
XLFRTEOPTS = "intrinthds=1"
```

Base Compiler Invocation

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

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

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:
-qipa=threads -bmaxdata:0x50000000 -O5 -qlargepage -qsimd -qvecnvol -D_ILS_MACROS -qalias=noansi -qalloca -blpdata

C++ benchmarks:
-qipa=threads -bmaxdata:0x20000000 -O5 -qlargepage -D_ILS_MACROS -qrtti=all -D__IBM_FAST_SET_MAP_ITERATOR -blpdata

Base Other Flags

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

C++ benchmarks:
-qipa=noobject -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
462.libquantum: -DSPEC_CPU_AIX
464.h264ref: -DSPEC_CPU_AIX -qchars=signed
483.xalancbmk: -DSPEC_CPU_AIX

Peak Optimization Flags

C benchmarks:

400.perlbench: -qipa=threads -bmaxdata:0x50000000 -qpdf1(pass 1) -qpdf2(pass 2) -O2 -qarch=auto -qtune=auto -D_ILS_MACROS -qalias=noansi -blpdata -btextpsize:64K

401.bzip2: -qipa=threads -bmaxdata:0x50000000 -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qsimd -qvecnvol -qlargepage -D_ILS_MACROS -blpdata -btextpsize:64K

403.gcc: -qipa=threads -bmaxdata:0x50000000 -qpdf1(pass 1) -qpdf2(pass 2) -O3 -qarch=auto -qtune=auto -qlargepage -D_ILS_MACROS -qalloca -blpdata -btextpsize:64K

429.mcf: Same as 401.bzip2

445.gobmk: -qipa=threads -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qsimd -qvecnvol -qlargepage -D_ILS_MACROS -blpdata -btextpsize:64K

456.hmmer: -qipa=threads -O5 -qsimd -qvecnvol -qassert=refalign -D_ILS_MACROS -blpdata -btextpsize:64K

458.sjeng: -qipa=threads -qpdf1(pass 1) -qpdf2(pass 2) -O5 -D_ILS_MACROS -blpdata -btextpsize:64K

462.libquantum: -O5 -q64 -qlargepage -D_ILS_MACROS -blpdata -btextpsize:64K

464.h264ref: -qipa=threads -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qsimd -qvecnvol -D_ILS_MACROS -blpdata -btextpsize:64K

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Peak Optimization Flags (Continued)

C++ benchmarks:

471.omnetpp: `-qipa=threads -bmaxdata:0x20000000 -qpdf1`(pass 1) `-qpdf2`(pass 2) `-O4 -D_ILS_MACROS -qalign=natural -qrtti=all -qinlglue -D__IBM_FAST_SET_MAP_ITERATOR -blpdata -btextpsize:64K`

473.astar: `-qipa=threads -bmaxdata:0x20000000 -qpdf1`(pass 1) `-qpdf2`(pass 2) `-O4 -qlargepage -D_ILS_MACROS -qinlglue -qalign=natural -blpdata -btextpsize:64K`

483.xalancbmk: `-qipa=threads -bmaxdata:0x20000000 -qpdf1`(pass 1) `-qpdf2`(pass 2) `-O4 -qsimd -qvecnvol -qarch=pwr5 -qtune=pwr5 -qlargepage -D_ILS_MACROS -qinlglue -D__IBM_FAST_VECTOR -blpdata -btextpsize:64K`

Peak Other Flags

C benchmarks (except as noted below):
`-qipa=noobject -qsuppress=1500-036`

400.perlbench: `-qsuppress=1500-036`

403.gcc: `-qsuppress=1500-036`

462.libquantum: `-qsuppress=1500-036`

C++ benchmarks (except as noted below):
`-qipa=noobject -qsuppress=1500-036`

471.omnetpp: `-qsuppress=1500-036`

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/IBM-XL.20100901.html
http://www.spec.org/cpu2006/flags/IBM-AIX.20100303.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/IBM-XL.20100901.xml
http://www.spec.org/cpu2006/flags/IBM-AIX.20100303.xml

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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