SPEC® CINT2006 Result

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IBM Corporation

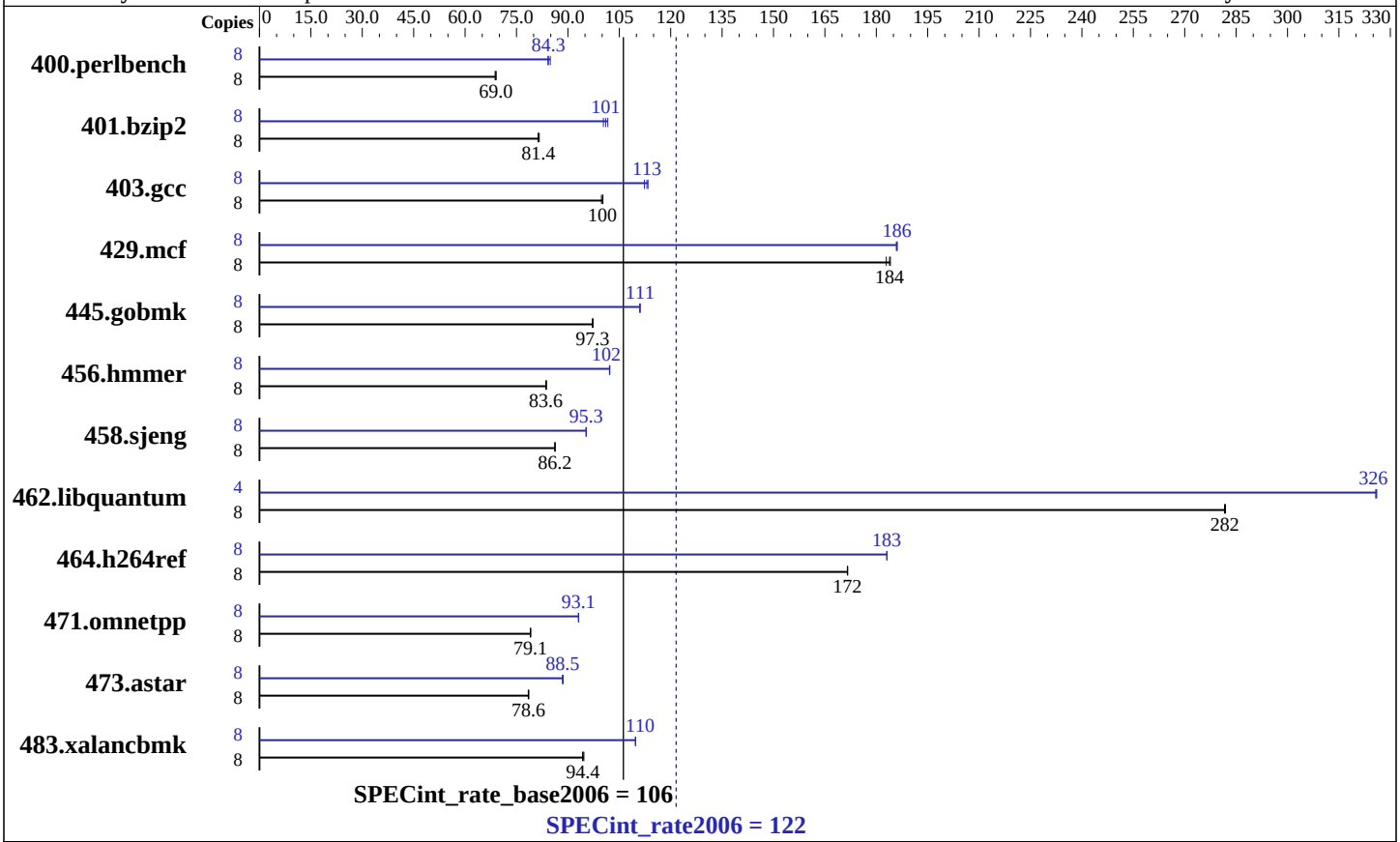
IBM System p 570 (4.7 GHz, 4 core)

SPECint®_rate2006 = 122

SPECint_rate_base2006 = 106

CPU2006 license: 11
Test sponsor: IBM Corporation
Tested by: IBM Corporation

Test date: May-2007
Hardware Availability: Jun-2007
Software Availability: Jun-2007



Hardware

CPU Name:	POWER6
CPU Characteristics:	
CPU MHz:	4700
FPU:	Integrated
CPU(s) enabled:	4 cores, 2 chips, 2 cores/chip, 2 threads/core
CPU(s) orderable:	2,4,8,12,16 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:	32 GB (16x2 GB) DDR2 667 MHz
Disk Subsystem:	1x73 GB 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:	--

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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	1137	68.8	**1133**	**69.0**	1132	69.0	8	**927**	**84.3**	929	84.2	921	84.9
401.bzip2	8	946	81.6	950	81.3	**948**	**81.4**	8	769	100	**764**	**101**	759	102
403.gcc	8	643	100	**643**	**100**	645	99.8	8	**570**	**113**	573	112	568	113
429.mcf	8	399	183	**397**	**184**	396	184	8	392	186	393	186	**392**	**186**
445.gobmk	8	**863**	**97.3**	862	97.3	864	97.2	8	756	111	**756**	**111**	756	111
456.hmmer	8	893	83.6	891	83.7	**893**	**83.6**	8	731	102	730	102	**731**	**102**
458.sjeng	8	**1123**	**86.2**	1123	86.2	1122	86.3	8	1015	95.3	1015	95.3	**1015**	**95.3**
462.libquantum	8	588	282	**588**	**282**	589	282	4	**254**	**326**	254	326	254	326
464.h264ref	8	1032	172	**1032**	**172**	1031	172	8	**967**	**183**	967	183	967	183
471.omnetpp	8	633	79.0	**632**	**79.1**	632	79.1	8	537	93.1	**537**	**93.1**	537	93.1
473.astar	8	**715**	**78.6**	716	78.4	715	78.6	8	**635**	**88.5**	634	88.6	635	88.4
483.xalancbmk	8	**585**	**94.4**	585	94.3	583	94.7	8	503	110	503	110	**503**	**110**

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 for details on following settings.
all ulimits set to unlimited
Envionment variables set before executing benchmarks:
  MALLOCOPTIONS=pool
  MEMORY_AFFINITY=MCM
  XLFRTEOPTS=intrinthds=1
System set to "Enhanced" mode when defining partition on HMC
1536 pages of size 16M defined on systems with vmo command
fdpr binary optimization tool used for peak versions of
  401.bzip2 403.gcc 429.mcf 456.hmmer 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 -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:
-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

Peak Optimization Flags

C benchmarks:

400.perlbench: `-bmaxdata:0x50000000 -qpdf1`(pass 1) `-qpdf2`(pass 2) `-O5 -qlargepage -qenablevmx -qvecnvol -D_ILS_MACROS -qalias=noansi -blpdata`

401.bzip2: `-bmaxdata:0x4fffffc -qpdf1`(pass 1) `-qpdf2`(pass 2) `-O5 -qlargepage -qenablevmx -qvecnvol -D_ILS_MACROS -blpdata`

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

429.mcf: `-bmaxdata:0x50000000 -O5 -qlargepage -qenablevmx -qvecnvol -D_ILS_MACROS -blpdata`

445.gobmk: `-qpdf1`(pass 1) `-qpdf2`(pass 2) `-O5 -qlargepage -qenablevmx -qvecnvol -D_ILS_MACROS -blpdata`

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

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

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

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

C++ benchmarks:

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

473.astar: `-bmaxdata:0x20000000 -qpdf1`(pass 1) `-qpdf2`(pass 2) `-O5 -qlargepage -qenablevmx -qvecnvol -D_ILS_MACROS -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`

Continued on next page

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.20090715.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/CPU2006_flags.20090715.xml`

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