SPEC® CINT2006 Result

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IBM Corporation

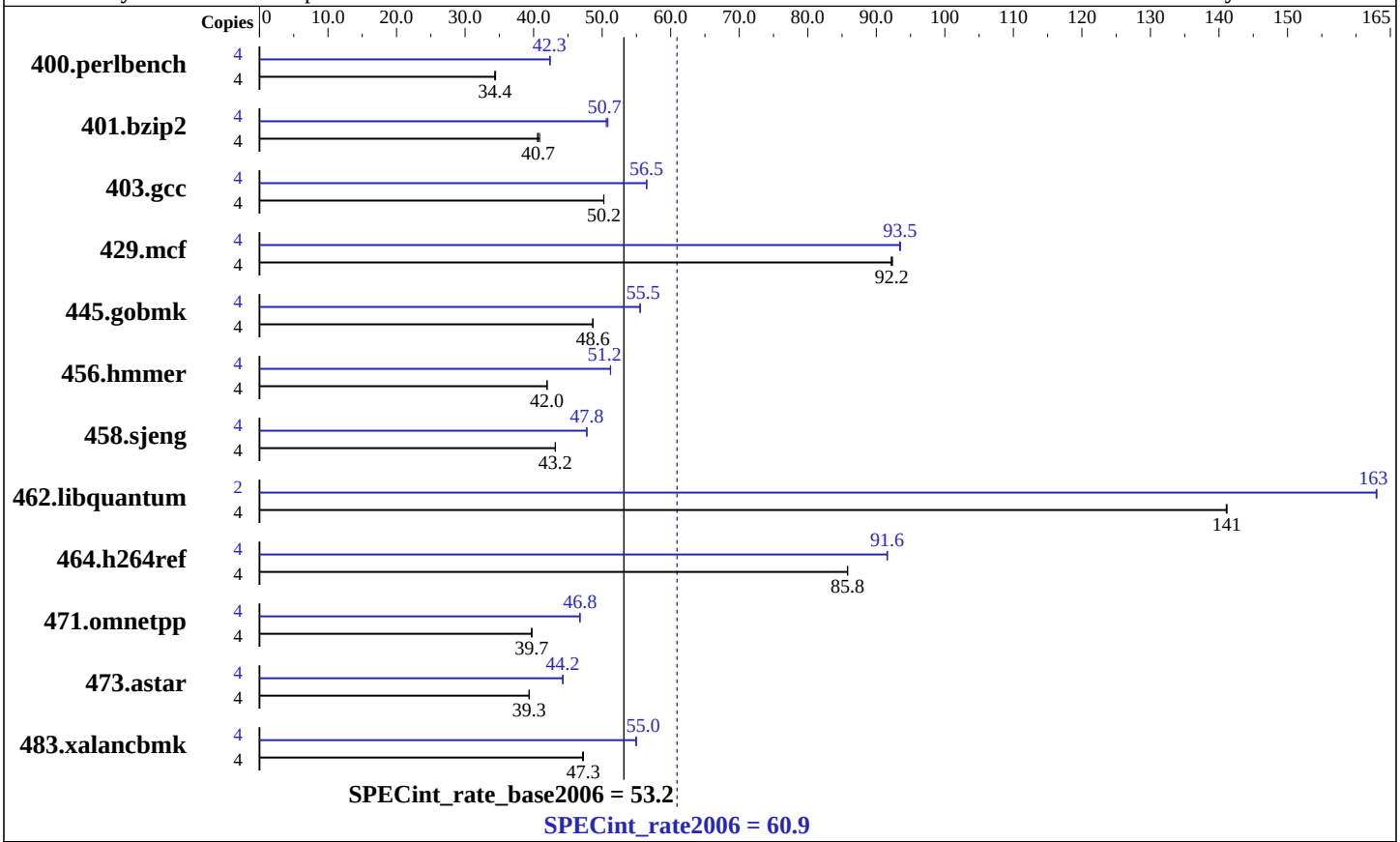
IBM System p 570 (4.7 GHz, 2 core)

SPECint®_rate2006 = 60.9

SPECint_rate_base2006 = 53.2

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:	2 cores, 1 chip, 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:	16 GB (8x2 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	4	1134	34.5	**1138**	**34.4**	1138	34.3	4	923	42.3	**923**	**42.3**	921	42.4
401.bzip2	4	**949**	**40.7**	952	40.6	944	40.9	4	763	50.6	**761**	**50.7**	759	50.8
403.gcc	4	**641**	**50.2**	641	50.2	641	50.3	4	**570**	**56.5**	570	56.5	570	56.5
429.mcf	4	**395**	**92.2**	395	92.4	396	92.2	4	390	93.5	391	93.4	**390**	**93.5**
445.gobmk	4	863	48.6	**863**	**48.6**	862	48.6	4	756	55.5	755	55.5	**755**	**55.5**
456.hmmer	4	890	42.0	**890**	**42.0**	889	42.0	4	729	51.2	728	51.2	**729**	**51.2**
458.sjeng	4	**1121**	**43.2**	1121	43.2	1121	43.2	4	**1013**	**47.8**	1013	47.8	1014	47.7
462.libquantum	4	588	141	587	141	**587**	**141**	2	**254**	**163**	254	163	254	163
464.h264ref	4	1032	85.8	**1032**	**85.8**	1031	85.8	4	967	91.6	**966**	**91.6**	966	91.6
471.omnetpp	4	629	39.7	**629**	**39.7**	630	39.7	4	**535**	**46.8**	535	46.8	535	46.8
473.astar	4	714	39.3	**714**	**39.3**	713	39.4	4	634	44.3	**635**	**44.2**	635	44.2
483.xalancbmk	4	584	47.3	**584**	**47.3**	585	47.1	4	502	54.9	502	55.0	**502**	**55.0**

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 5300-06 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
786 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"
```

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:0x4ffffffc -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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