SPEC® CINT2006 Result

IBM Corporation

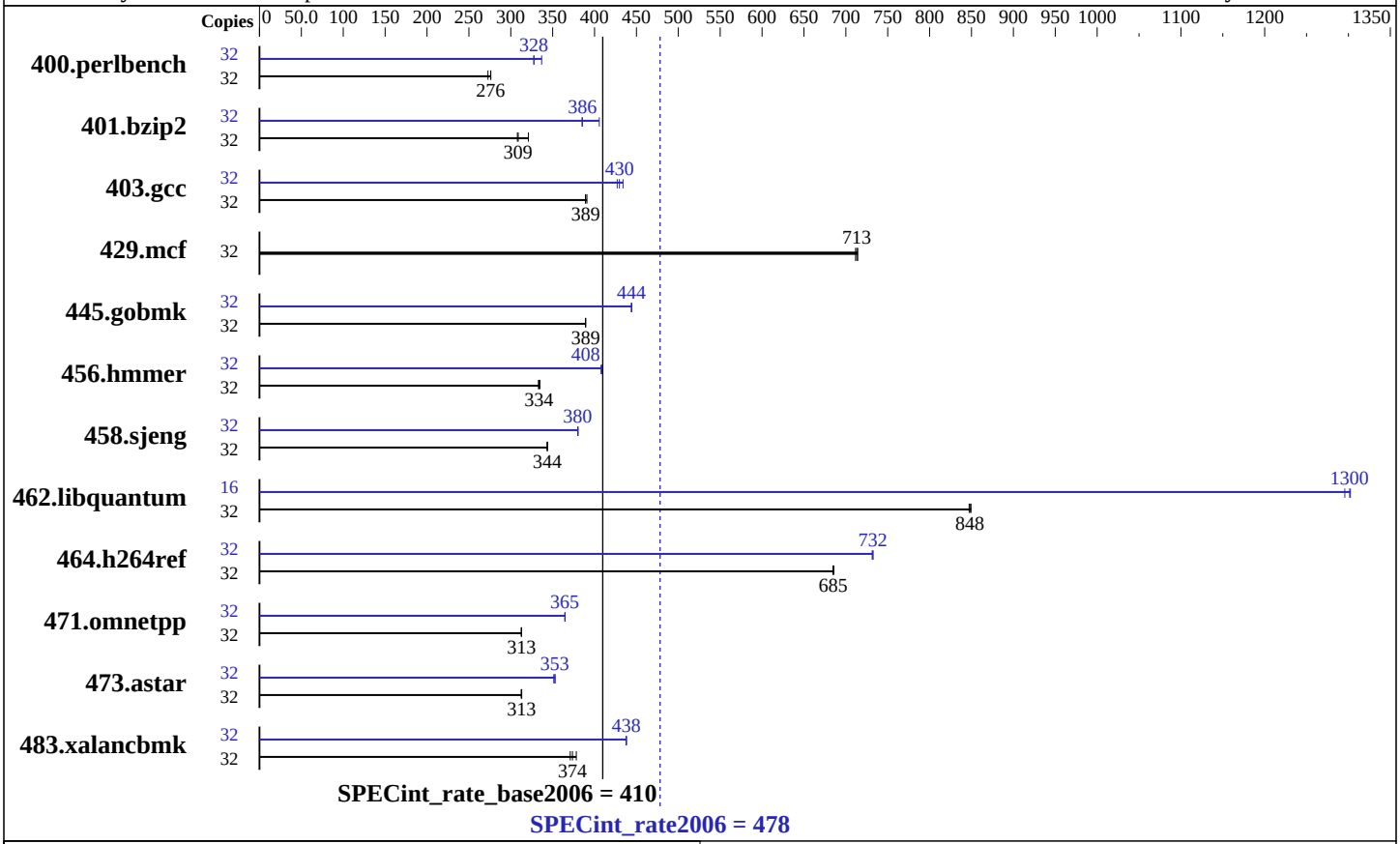
IBM System p 570 (4.7 GHz, 16 core)

SPECint®_rate2006 = 478

SPECint_rate_base2006 = 410

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:	16 cores, 8 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:	128 GB (64x2 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	32	1146	273	1132	276	**1132**	**276**	32	**954**	**328**	954	328	928	337
401.bzip2	32	1003	308	**1000**	**309**	962	321	32	**801**	**386**	802	385	761	406
403.gcc	32	659	391	**662**	**389**	662	389	32	603	427	**600**	**430**	594	434
429.mcf	32	410	712	**409**	**713**	409	714	32	410	712	**409**	**713**	409	714
445.gobmk	32	862	389	**862**	**389**	863	389	32	**756**	**444**	755	444	756	444
456.hmmer	32	896	333	**895**	**334**	892	335	32	**731**	**408**	732	408	730	409
458.sjeng	32	1126	344	1127	343	**1127**	**344**	32	1018	380	1019	380	**1019**	**380**
462.libquantum	32	781	849	**782**	**848**	783	847	16	255	1300	**255**	**1300**	256	1300
464.h264ref	32	1033	686	**1034**	**685**	1034	685	32	968	731	967	732	**967**	**732**
471.omnetpp	32	640	312	639	313	**639**	**313**	32	549	365	548	365	**548**	**365**
473.astar	32	719	312	717	313	**718**	**313**	32	639	351	**637**	**353**	636	353
483.xalancbmk	32	595	371	**591**	**374**	584	378	32	505	438	**504**	**438**	504	438

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
6144 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: `basepeak = yes`

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`

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

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

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