SPEC® CINT2006 Result

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IBM Corporation

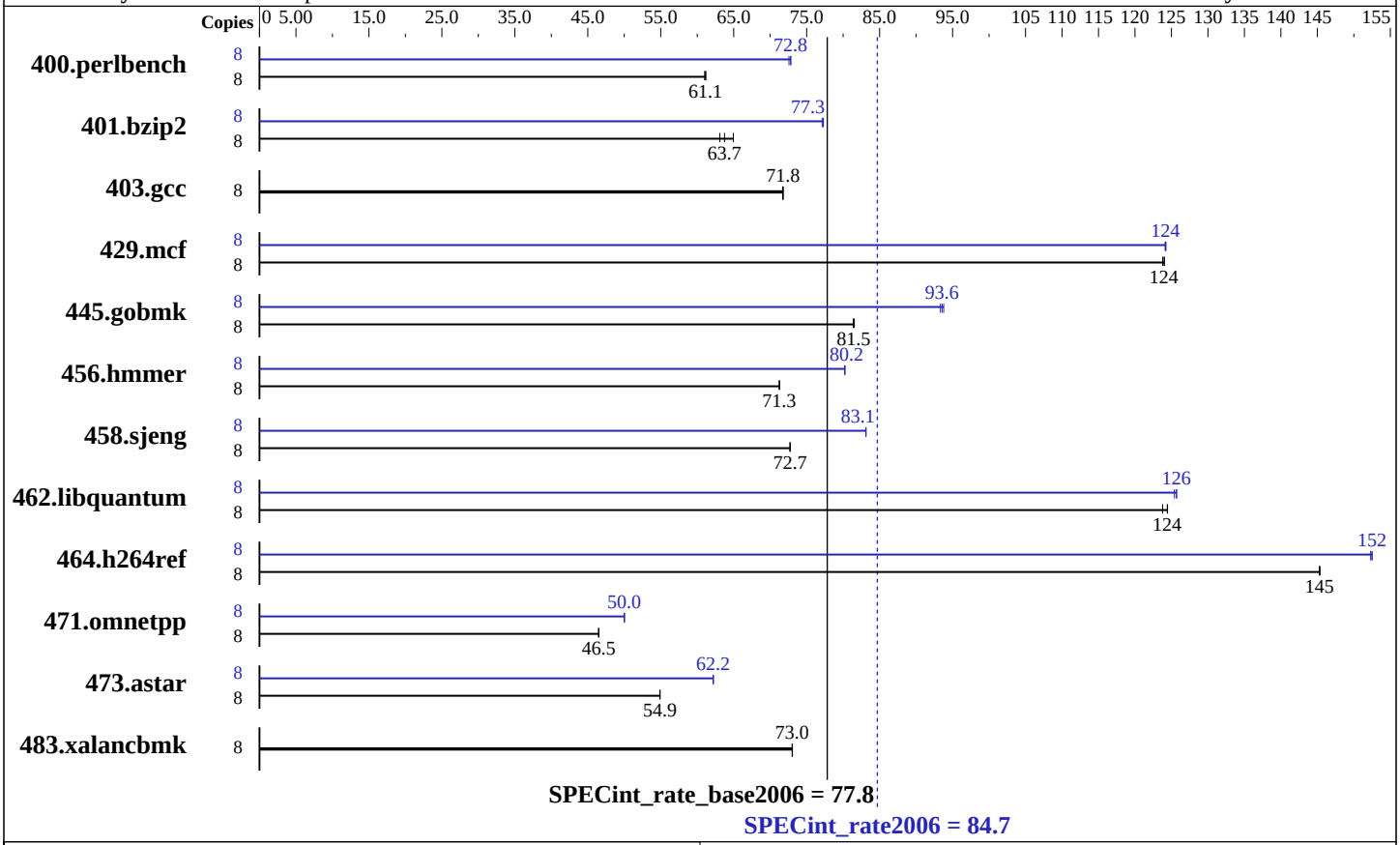
IBM BladeCenter JS22 (4.0 GHz, 4 core)

SPECint®_rate2006 = 84.7

SPECint_rate_base2006 = 77.8

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

Test date: Oct-2007
Hardware Availability: Nov-2007
Software Availability: Nov-2007



Hardware

CPU Name:	POWER6
CPU Characteristics:	
CPU MHz:	4000
FPU:	Integrated
CPU(s) enabled:	4 cores, 2 chips, 2 cores/chip, 2 threads/core
CPU(s) orderable:	4 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:	None
Other Cache:	None
Memory:	16 GB (4x4 GB) DDR2 667 MHz
Disk Subsystem:	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:	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	8	1281	61.0	**1278**	**61.1**	1278	61.2	8	1077	72.6	**1074**	**72.8**	1073	72.8
401.bzip2	8	**1211**	**63.7**	1188	65.0	1224	63.1	8	**999**	**77.3**	1001	77.1	999	77.3
403.gcc	8	898	71.7	897	71.8	**897**	**71.8**	8	898	71.7	897	71.8	**897**	**71.8**
429.mcf	8	588	124	**588**	**124**	589	124	8	587	124	588	124	**588**	**124**
445.gobmk	8	1029	81.5	**1030**	**81.5**	1031	81.4	8	899	93.3	**897**	**93.6**	895	93.8
456.hmmer	8	1048	71.2	1047	71.3	**1047**	**71.3**	8	930	80.2	931	80.2	**930**	**80.2**
458.sjeng	8	1331	72.7	**1331**	**72.7**	1331	72.7	8	1165	83.1	**1164**	**83.1**	1164	83.1
462.libquantum	8	1339	124	1332	124	**1332**	**124**	8	1319	126	1322	125	**1319**	**126**
464.h264ref	8	**1218**	**145**	1218	145	1219	145	8	1161	153	1162	152	**1161**	**152**
471.omnetpp	8	1076	46.5	1075	46.5	**1075**	**46.5**	8	999	50.0	1001	50.0	**1000**	**50.0**
473.astar	8	1023	54.9	1023	54.9	**1023**	**54.9**	8	903	62.2	**903**	**62.2**	903	62.2
483.xalancbmk	8	756	73.0	756	73.1	**756**	**73.0**	8	756	73.0	756	73.1	**756**	**73.0**

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 5300-07 Technology Level.
IBM XL Compilers updated to October 2007 PTF 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
   768 pages of size 16M defined on systems with vmo command
   fdpr binary optimization tool used for peak versions of:
      429.mcf, 456.hmmer, 458.sjeng, 462.libquantum, 473.astar
submit used to bind benchmark to a processor using "bindprocessor"

The binaries were compiled on a system with 32 GB of memory.
```

Base Compiler Invocation

C benchmarks:
`/usr/vac/bin/xlc`

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:
-qlanglvl=extc99 -bmaxdata:0x50000000 -O5 -qalias=noansi -qalloca
-blpdata

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

Base Other Flags

C benchmarks:
-qipa=noobject -qsuppress=1506-1298 -qsuppress=1500-036 -qipa=threads

C++ benchmarks:
-qipa=noobject -qsuppress=1586-267 -qsuppress=1586-234
-qsuppress=1586-233 -qsuppress=1540-2907 -qsuppress=1540-1608
-qsuppress=1540-1604 -qsuppress=1540-1102 -qsuppress=1540-0802
-qsuppress=1500-036 -qsuppress=1500-029 -qsuppress=1500-010
-qipa=threads

Peak Compiler Invocation

C benchmarks:
/usr/vac/bin/xlc

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: `-qlanglvl=extc99 -qpdf1`(pass 1) `-qpdf2`(pass 2) `-O4 -qlargepage -qenablevmx -qalias=noansi -bmaxdata:0x50000000 -blpdata`

401.bzip2: `-qlanglvl=extc99 -qpdf1`(pass 1) `-qpdf2`(pass 2) `-O5 -qlargepage -bmaxdata:0x4ffffffc -blpdata`

403.gcc: `basepeak = yes`

429.mcf: `-qlanglvl=extc99 -O5 -qfdpr -qlargepage -bmaxdata:0x50000000 -blpdata`

445.gobmk: `-qlanglvl=extc99 -qpdf1`(pass 1) `-qpdf2`(pass 2) `-O5 -qlargepage -qstrict -blpdata`

456.hmmer: `-qlanglvl=extc99 -O5 -qfdpr -q64 -qlargepage -qenablevmx -qvecnvol -blpdata`

458.sjeng: `-qlanglvl=extc99 -qpdf1`(pass 1) `-qpdf2`(pass 2) `-O5 -qfdpr -qlargepage -blpdata`

462.libquantum: `-qlanglvl=extc99 -qpdf1`(pass 1) `-qpdf2`(pass 2) `-O5 -qfdpr -q64 -qlargepage -blpdata`

464.h264ref: `-qlanglvl=extc99 -qpdf1`(pass 1) `-qpdf2`(pass 2) `-O5 -qlargepage -blpdata`

C++ benchmarks:

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

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

483.xalancbmk: `basepeak = yes`

Peak Other Flags

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

403.gcc: `-qipa=noobject -qsuppress=1506-1298 -qsuppress=1500-036 -qipa=threads`

Continued on next page

Peak Other Flags (Continued)

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

483.xalancbmk: `-qipa=noobject -qsuppress=1586-267 -qsuppress=1586-234 -qsuppress=1586-233 -qsuppress=1540-2907 -qsuppress=1540-1608 -qsuppress=1540-1604 -qsuppress=1540-1102 -qsuppress=1540-0802 -qsuppress=1500-036 -qsuppress=1500-029 -qsuppress=1500-010 -qipa=threads`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.08.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.08.xml`

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