



SPEC[®] CINT2006 Result

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IBM Corporation

SPECint[®]_rate2006 = 65.1

IBM System x3650 (Intel Xeon 5160)

SPECint_rate_base2006 = 60.2

CPU2006 license: 11

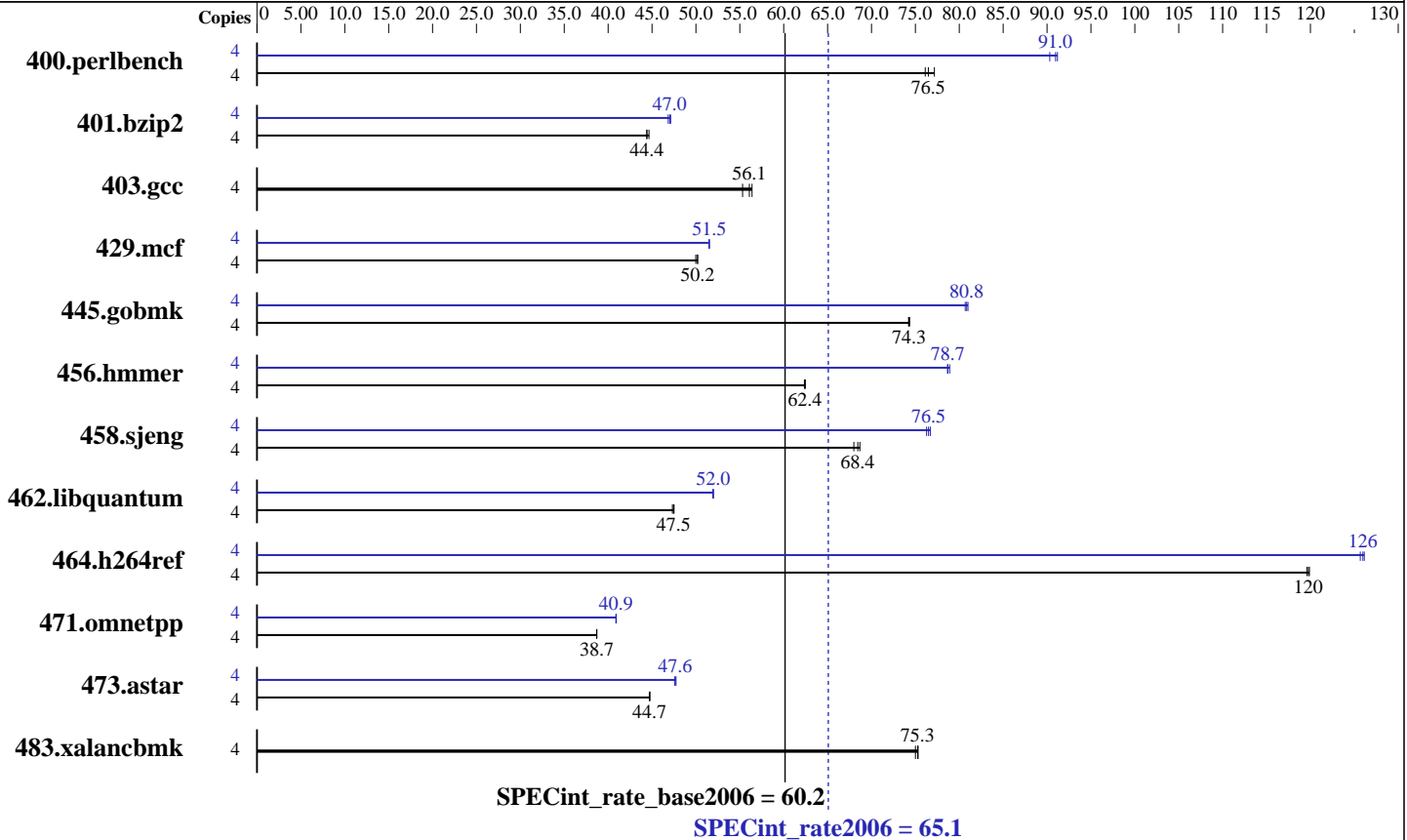
Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Jul-2007

Hardware Availability: Jul-2006

Software Availability: Jul-2007



Hardware

CPU Name: Intel Xeon 5160
 CPU Characteristics: 1333MHz system bus
 CPU MHz: 3000
 FPU: Integrated
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip
 CPU(s) orderable: 1,2 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 4 MB I+D on chip per chip
 L3 Cache: None
 Other Cache: None
 Memory: 16 GB (8 x 2 GB DDR2-5300F ECC)
 Disk Subsystem: 1 x 36 GB SAS, 15000 RPM
 Other Hardware: None

Software

Operating System: SLES 10 (x86_64), 2.6.16.21-0.8-smp
 Compiler: Intel C++ Compiler for Linux version 10.0
 Build 20070426 Package ID: 1_cc_p_10.0.023
 Auto Parallel: No
 File System: ReiserFS
 System State: Multi-user, run level 3
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: MicroQuill SmartHeap 8.1



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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	513	76.1	<u>511</u>	<u>76.5</u>	506	77.2	4	433	90.3	429	91.2	<u>430</u>	<u>91.0</u>
401.bzip2	4	864	44.7	<u>869</u>	<u>44.4</u>	869	44.4	4	819	47.1	<u>821</u>	<u>47.0</u>	824	46.8
403.gcc	4	<u>574</u>	<u>56.1</u>	571	56.4	582	55.3	4	<u>574</u>	<u>56.1</u>	571	56.4	582	55.3
429.mcf	4	730	50.0	727	50.2	<u>727</u>	<u>50.2</u>	4	708	51.5	<u>708</u>	<u>51.5</u>	708	51.5
445.gobmk	4	564	74.3	565	74.2	<u>565</u>	<u>74.3</u>	4	<u>519</u>	<u>80.8</u>	518	81.0	520	80.7
456.hammer	4	598	62.4	598	62.5	<u>598</u>	<u>62.4</u>	4	<u>474</u>	<u>78.7</u>	474	78.7	473	78.9
458.sjeng	4	705	68.7	<u>707</u>	<u>68.4</u>	712	68.0	4	631	76.7	<u>633</u>	<u>76.5</u>	635	76.3
462.libquantum	4	1745	47.5	<u>1747</u>	<u>47.5</u>	1751	47.3	4	1594	52.0	1596	51.9	<u>1595</u>	<u>52.0</u>
464.h264ref	4	738	120	<u>739</u>	<u>120</u>	740	120	4	<u>703</u>	<u>126</u>	704	126	702	126
471.omnetpp	4	<u>646</u>	<u>38.7</u>	646	38.7	646	38.7	4	611	40.9	611	40.9	<u>611</u>	<u>40.9</u>
473.astar	4	<u>628</u>	<u>44.7</u>	628	44.7	628	44.7	4	588	47.7	590	47.6	<u>589</u>	<u>47.6</u>
483.xalancbmk	4	366	75.3	368	75.0	<u>367</u>	<u>75.3</u>	4	366	75.3	368	75.0	<u>367</u>	<u>75.3</u>

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

General Notes

taskset utility used to bind CPU(s) to processes

Base Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

Base Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:

-fast

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Base Optimization Flags (Continued)

C++ benchmarks:

```
-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs
-L/spec/cpu2006.1.0/lib -lsmartheap
```

Base Other Flags

C benchmarks:

```
403.gcc: -Dalloca=_alloca
```

Peak Compiler Invocation

C benchmarks (except as noted below):

icc

```
401.bzip2: /opt/intel/cce/10.0.023/bin/icc
-L/opt/intel/cce/10.0.023/lib
-I/opt/intel/cce/10.0.023/include
```

```
456.hmmer: /opt/intel/cce/10.0.023/bin/icc
-L/opt/intel/cce/10.0.023/lib
-I/opt/intel/cce/10.0.023/include
```

C++ benchmarks:

icpc

Peak Portability Flags

```
400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX
```

Peak Optimization Flags

C benchmarks:

```
400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -fast -ansi-alias
-prefetch
```

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Peak Optimization Flags (Continued)

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -fast

403.gcc: basepeak = yes

429.mcf: -fast -prefetch

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xT -O2 -ipo
-no-prec_div -ansi-alias

456.hmmer: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-ansi-alias

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4

462.libquantum: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -Ob0
-prefetch -opt-streaming-stores always

464.h264ref: Same as 456.hmmer

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo
-no-prec_div -ansi-alias -Wl,-z,muldefs
-L/spec/cpu2006.1.0/lib -lsmartheap

473.astar: Same as 471.omnetpp

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090714.44.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090714.44.xml>



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