



SPEC® CINT2006 Result

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IBM Corporation

SPECint®2006 = 23.6

IBM BladeCenter HS21 (Intel Xeon X5365)

SPECint_base2006 = 20.3

CPU2006 license: 11

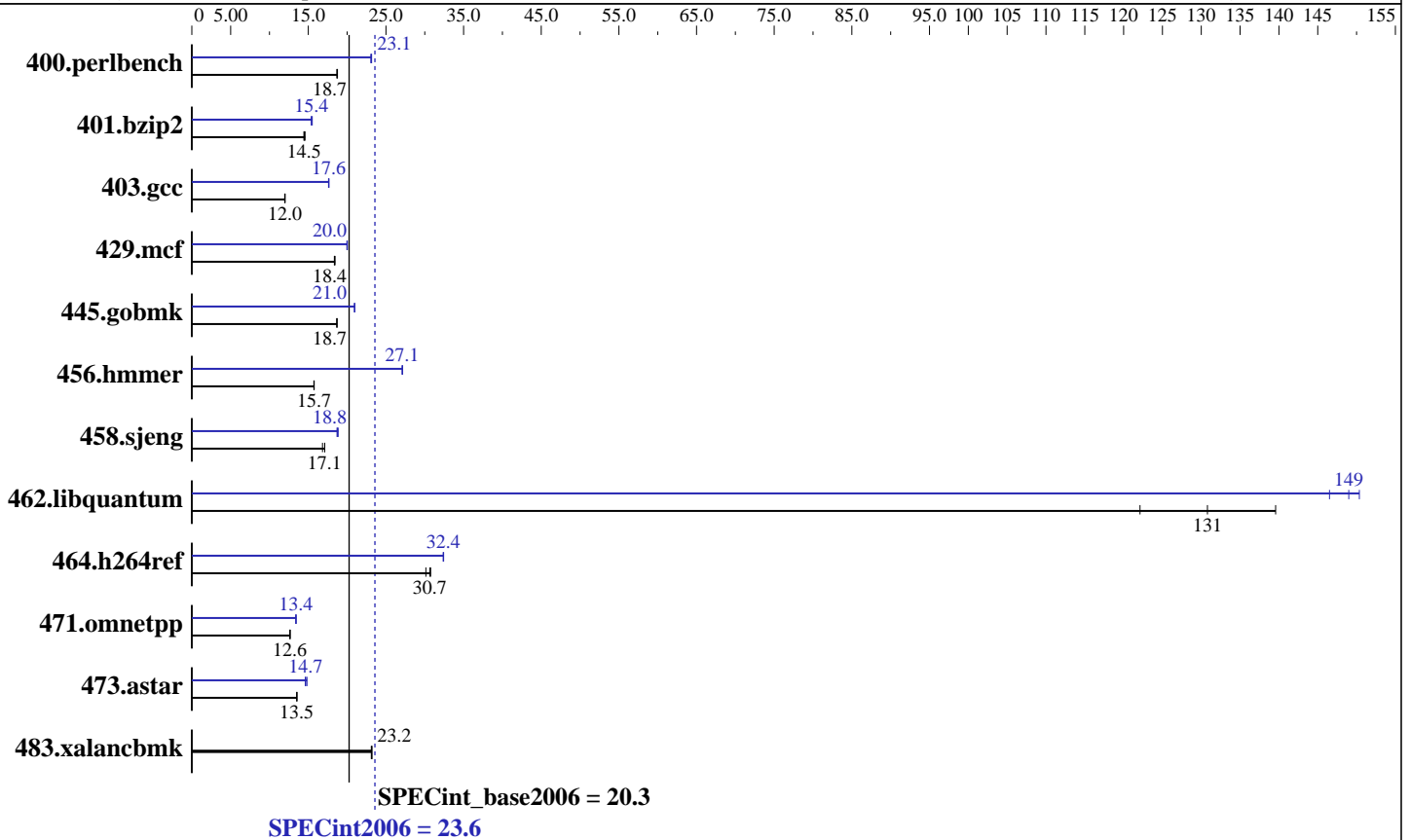
Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Sep-2007

Hardware Availability: Sep-2007

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon X5365
 CPU Characteristics: 1333MHz system bus
 CPU MHz: 3000
 FPU: Integrated
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip
 CPU(s) orderable: 1,2 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 8 MB I+D on chip per chip, 4 MB shared / 2 cores
 L3 Cache: None
 Other Cache: None
 Memory: 16 GB (8 x 2 GB DDR2-5300F ECC)
 Disk Subsystem: 1 x 36 GB SAS, 10000 RPM
 Other Hardware: Memory and I/O Expansion Unit (P/N 42C1600)

Software

Operating System: SLES 10 (x86_64), 2.6.16.21-0.8-smp
 Compiler: Intel C++ Compiler for Linux version 10.1 Build 20070824
 Auto Parallel: Yes
 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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	523	18.7	<u>522</u>	<u>18.7</u>	521	18.8	422	23.2	424	23.1	<u>423</u>	<u>23.1</u>
401.bzip2	662	14.6	<u>666</u>	<u>14.5</u>	669	14.4	<u>625</u>	<u>15.4</u>	627	15.4	622	15.5
403.gcc	673	12.0	<u>671</u>	<u>12.0</u>	670	12.0	<u>457</u>	<u>17.6</u>	457	17.6	456	17.7
429.mcf	497	18.4	<u>496</u>	<u>18.4</u>	494	18.5	455	20.0	<u>456</u>	<u>20.0</u>	457	20.0
445.gobmk	561	18.7	<u>561</u>	<u>18.7</u>	561	18.7	500	21.0	500	21.0	<u>500</u>	<u>21.0</u>
456.hammer	592	15.7	<u>592</u>	<u>15.7</u>	594	15.7	344	27.2	344	27.1	<u>344</u>	<u>27.1</u>
458.sjeng	<u>707</u>	<u>17.1</u>	719	16.8	707	17.1	647	18.7	642	18.8	<u>645</u>	<u>18.8</u>
462.libquantum	170	122	148	140	<u>158</u>	<u>131</u>	138	150	141	147	<u>139</u>	<u>149</u>
464.h264ref	720	30.8	734	30.1	<u>722</u>	<u>30.7</u>	682	32.4	<u>683</u>	<u>32.4</u>	683	32.4
471.omnetpp	495	12.6	493	12.7	<u>495</u>	<u>12.6</u>	467	13.4	<u>466</u>	<u>13.4</u>	465	13.4
473.astar	519	13.5	519	13.5	<u>519</u>	<u>13.5</u>	<u>478</u>	<u>14.7</u>	481	14.6	473	14.8
483.xalancbmk	298	23.2	299	23.1	<u>298</u>	<u>23.2</u>	298	23.2	299	23.1	<u>298</u>	<u>23.2</u>

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

General Notes

OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to physical,0
KMP_STACKSIZE set to 8M

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 -vec-guard-write -opt-malloc-options=3 -parallel
-par-runtime-control

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Base Optimization Flags (Continued)

C++ benchmarks:

```
-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs
-L/home/cmplr/usr3/alrahate/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: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux64/bin/icc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux64/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux64/include
```

```
456.hmmer: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux64/bin/icc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux64/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070824/Linux64/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 -prefetch
-auto-ilp32

403.gcc: -fast -inline-calloc -opt-malloc-options=3

429.mcf: -fast -prefetch

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

456.hmmer: -fast -unroll2 -ansi-alias -opt-multi-version-aggressive
-auto-ilp32

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

462.libquantum: -fast -unroll4 -Ob0 -prefetch
-opt-streaming-stores always -vec-guard-write
-opt-malloc-options=3 -parallel -par-runtime-control

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-ansi-alias

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo
-no-prec-div -ansi-alias -opt-ra-region-strategy=block
-Wl,-z,muldefs
-L/home/cmplr/usr3/alrahate/cpu2006.1.0/lib -lsmartheap

473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo
-no-prec-div -ansi-alias -opt-ra-region-strategy=routine
-Wl,-z,muldefs
-L/home/cmplr/usr3/alrahate/cpu2006.1.0/lib -lsmartheap

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.20090714.02.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.20090714.02.xml>



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