



SPEC® CINT2006 Result

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IBM Corporation

SPECint®2006 = 27.3

IBM BladeCenter HS21 (Intel Xeon X5260)

SPECint_base2006 = 22.8

CPU2006 license: 11

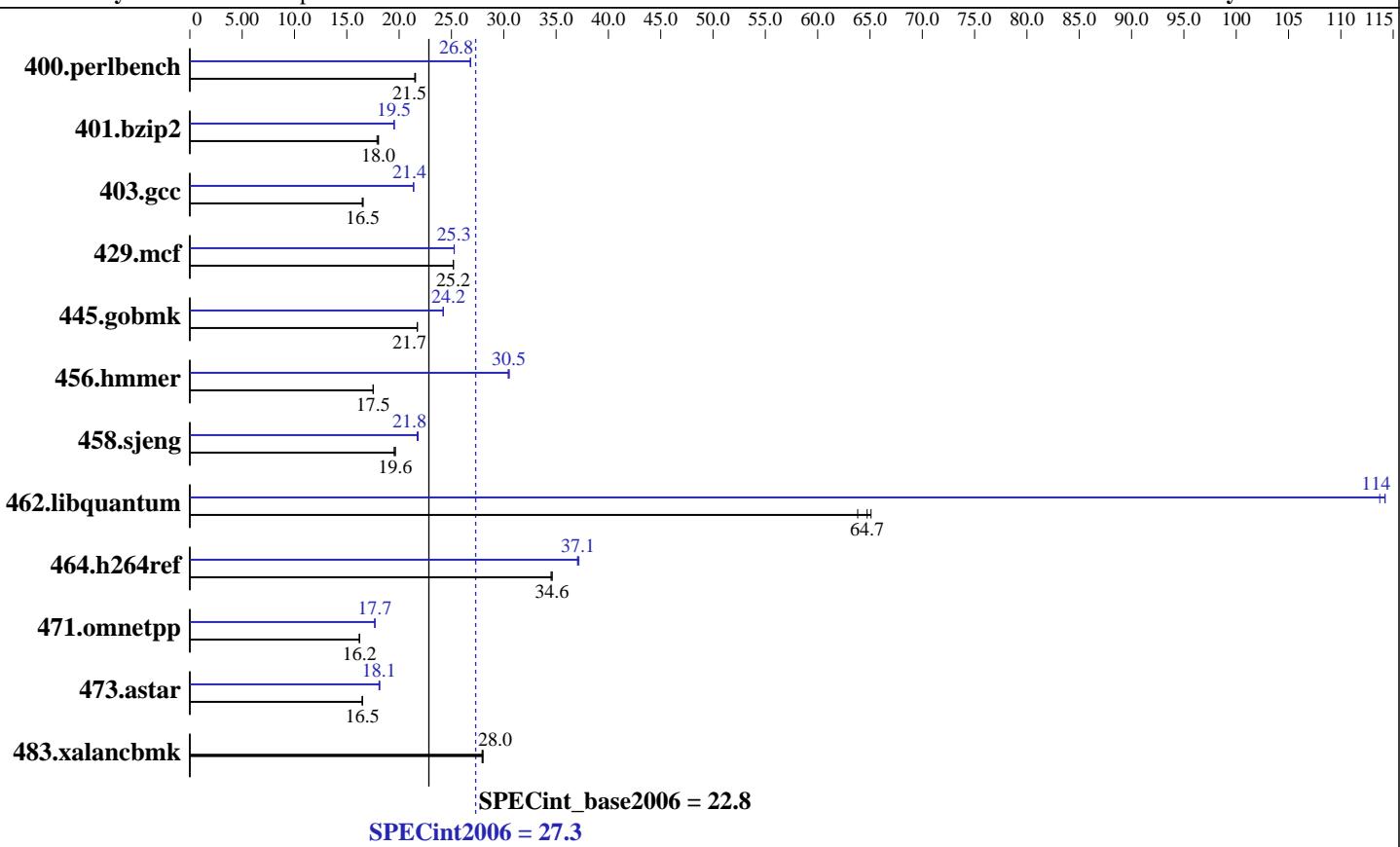
Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Jan-2008

Hardware Availability: Feb-2008

Software Availability: Nov-2007



Hardware

CPU Name:	Intel Xeon X5260
CPU Characteristics:	1333MHz system bus
CPU MHz:	3325
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:	6 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, 10000 RPM
Other Hardware:	None

Software

Operating System:	SuSE Linux Enterprise Server 10 (x86_64), Kernel 2.6.16.21-0.8-smp
Compiler:	Intel C++ Compiler 10.1 for Linux Build 20070913 Package ID: l_cc_p_10.1.008
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 Binutils 2.17.50.0.15



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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio										
400.perlbench	454	21.5	454	21.5	453	21.6	364	26.8	364	26.8	365	26.8
401.bzip2	535	18.0	536	18.0	539	17.9	494	19.5	494	19.5	494	19.5
403.gcc	486	16.5	489	16.5	487	16.5	376	21.4	377	21.4	376	21.4
429.mcf	362	25.2	362	25.2	362	25.2	361	25.3	361	25.3	361	25.3
445.gobmk	482	21.8	483	21.7	483	21.7	433	24.2	433	24.2	433	24.2
456.hammer	533	17.5	532	17.5	532	17.5	306	30.5	306	30.5	307	30.4
458.sjeng	620	19.5	617	19.6	616	19.6	557	21.7	555	21.8	554	21.8
462.libquantum	325	63.8	318	65.1	320	64.7	181	114	182	114	181	114
464.h264ref	639	34.6	641	34.5	639	34.6	595	37.2	597	37.1	597	37.0
471.omnetpp	385	16.2	386	16.2	386	16.2	354	17.7	353	17.7	354	17.7
473.astar	425	16.5	426	16.5	426	16.5	387	18.2	388	18.1	388	18.1
483.xalancbmk	246	28.0	247	28.0	247	27.9	246	28.0	247	28.0	247	27.9

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

General Notes

All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hammer, for peak, are compiled in 64-bit mode

Hardware Sector Prefetch Enabled and Adjacent Sector Prefetch Enabled

OMP_NUM_THREADS set to number of cores

KMP_AFFINITY set to physical,0

KMP_STACKSIZE set to null

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



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Base Optimization Flags

C benchmarks:

```
-fast -vec-guard-write -parallel -par-runtime-control
```

C++ benchmarks:

```
-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs  
-L/spec/users/rahul/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/10.1.008/bin/icc  
-L/opt/intel/cce/10.1.008/lib  
-I/opt/intel/cce/10.1.008/include
```

```
456.hmmr: /opt/intel/cce/10.1.008/bin/icc  
-L/opt/intel/cce/10.1.008/lib  
-I/opt/intel/cce/10.1.008/include
```

C++ benchmarks:

icpc

Peak Portability Flags

```
400.perlbench: -DSPEC_CPU_LINUX_IA32
```

```
401.bzip2: -DSPEC_CPU_LP64
```

```
456.hmmr: -DSPEC_CPU_LP64
```

```
462.libquantum: -DSPEC_CPU_LINUX
```

```
483.xalancbmk: -DSPEC_CPU_LINUX
```

Peak Optimization Flags

C benchmarks:

Continued on next page



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Peak Optimization Flags (Continued)

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

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.hmmr: -fast -unroll12 -ansi-alias -opt-multi-version-aggressive
-auto-ilp32

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

462.libquantum: -fast -unroll14 -O0 -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/spec/users/rahul/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/spec/users/rahul/cpu2006.1.0/lib -lsmartheap

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca



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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.20090714.14.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.20090714.14.xml>

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For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.0.

Report generated on Tue Jul 22 16:35:48 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 6 February 2008.