



SPEC® CINT2006 Result

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IBM Corporation

SPECint®_rate2006 = 96.0

IBM BladeCenter HS21 (Intel Xeon X5355)

SPECint_rate_base2006 = 89.9

CPU2006 license: 11

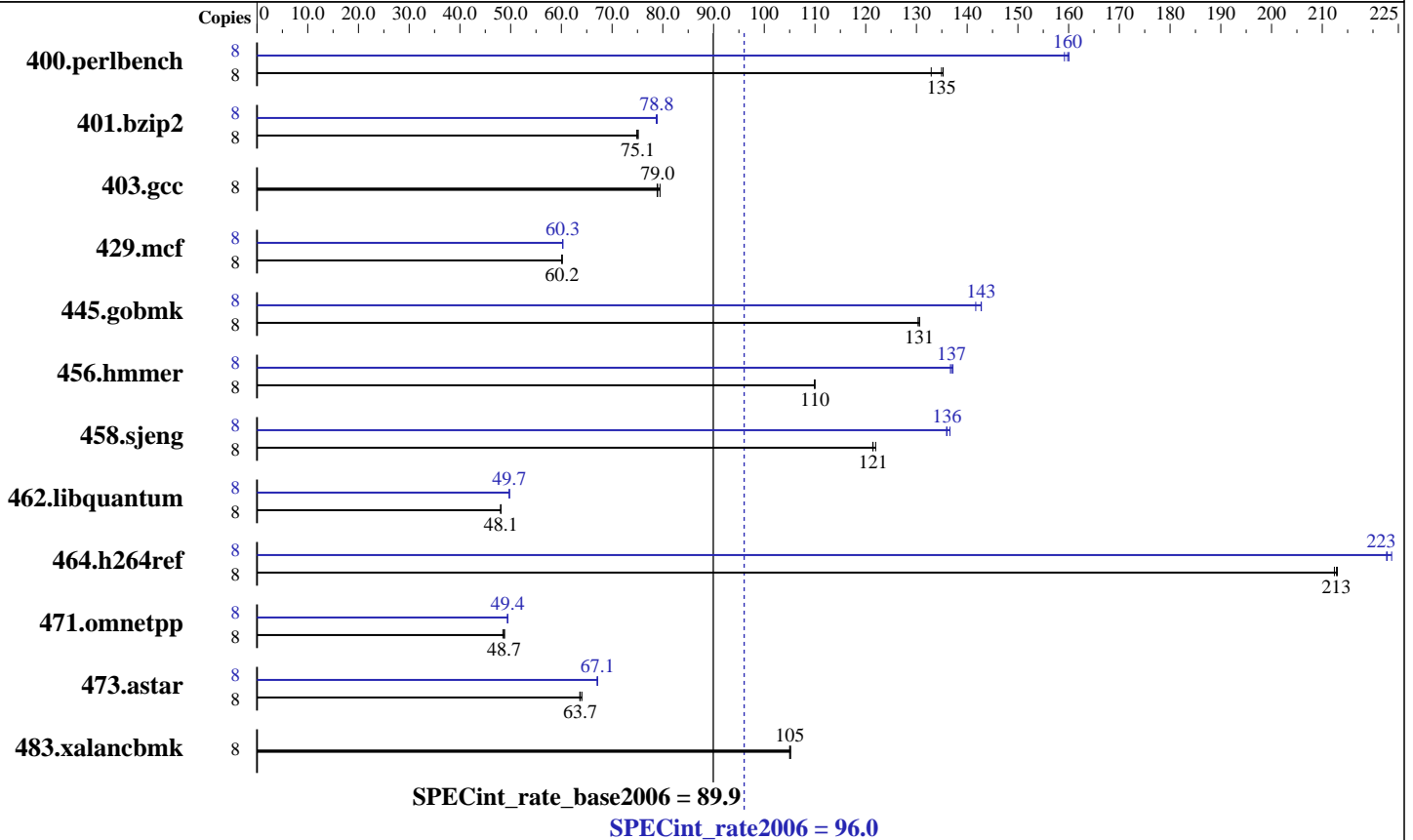
Test date: Jul-2007

Test sponsor: IBM Corporation

Hardware Availability: Apr-2007

Tested by: IBM Corporation

Software Availability: Jul-2007



Hardware

CPU Name: Intel Xeon X5355
 CPU Characteristics: 1333MHz system bus
 CPU MHz: 2667
 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 2GB 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 10.0
 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	8	588	133	<u>579</u>	<u>135</u>	578	135	8	488	160	<u>489</u>	<u>160</u>	491	159
401.bzip2	8	1031	74.9	1027	75.1	<u>1028</u>	<u>75.1</u>	8	979	78.9	981	78.7	<u>979</u>	<u>78.8</u>
403.gcc	8	<u>815</u>	<u>79.0</u>	811	79.4	816	78.9	8	<u>815</u>	<u>79.0</u>	811	79.4	816	78.9
429.mcf	8	<u>1213</u>	<u>60.2</u>	1214	60.1	1213	60.2	8	1210	60.3	1211	60.3	<u>1211</u>	<u>60.3</u>
445.gobmk	8	644	130	643	131	<u>643</u>	<u>131</u>	8	592	142	588	143	<u>588</u>	<u>143</u>
456.hammer	8	<u>679</u>	<u>110</u>	679	110	679	110	8	544	137	546	137	<u>545</u>	<u>137</u>
458.sjeng	8	794	122	797	121	<u>797</u>	<u>121</u>	8	712	136	<u>712</u>	<u>136</u>	709	137
462.libquantum	8	3448	48.1	<u>3449</u>	<u>48.1</u>	3450	48.0	8	<u>3332</u>	<u>49.7</u>	3332	49.7	3332	49.7
464.h264ref	8	834	212	831	213	<u>832</u>	<u>213</u>	8	<u>795</u>	<u>223</u>	795	223	791	224
471.omnetpp	8	1032	48.5	1025	48.8	<u>1026</u>	<u>48.7</u>	8	<u>1012</u>	<u>49.4</u>	1012	49.4	1011	49.4
473.astar	8	<u>881</u>	<u>63.7</u>	877	64.0	883	63.6	8	836	67.2	<u>837</u>	<u>67.1</u>	838	67.0
483.xalancbmk	8	<u>525</u>	<u>105</u>	525	105	526	105	8	<u>525</u>	<u>105</u>	525	105	526	105

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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