SPEC® CINT2006 Result

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IBM Corporation

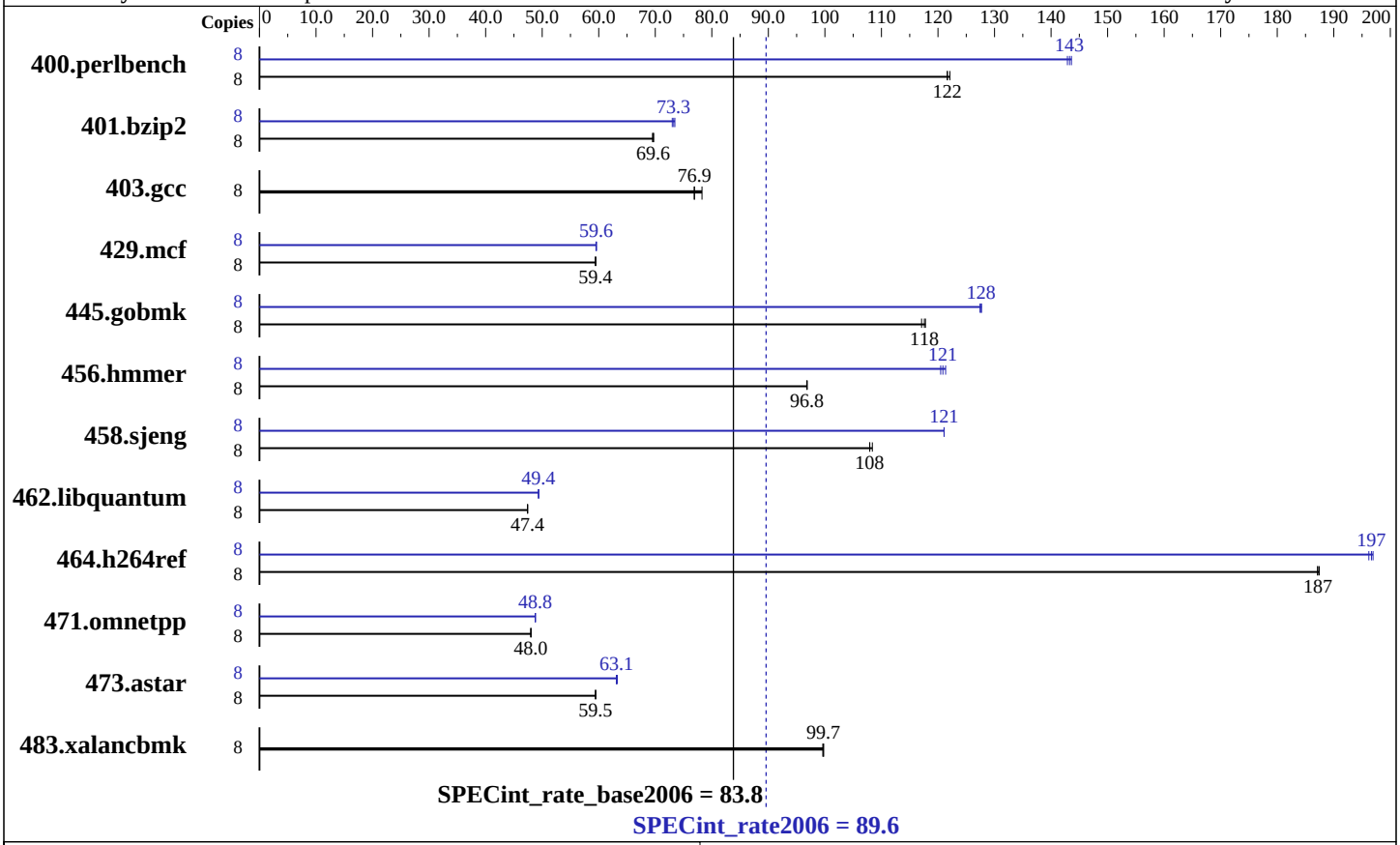
IBM BladeCenter HS21 XM (Intel Xeon E5345)

SPECint®_rate2006 = 89.6

SPECint_rate_base2006 = 83.8

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

Test date: Aug-2007
Hardware Availability: Feb-2007
Software Availability: Jul-2007



Hardware

CPU Name:	Intel Xeon E5345
CPU Characteristics:	1333MHz system bus
CPU MHz:	2333
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:	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: l_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	643	122	640	122	**642**	**122**	8	**546**	**143**	544	144	547	143
401.bzip2	8	1107	69.7	**1109**	**69.6**	1111	69.5	8	**1054**	**73.3**	1051	73.5	1057	73.0
403.gcc	8	838	76.9	**837**	**76.9**	823	78.3	8	838	76.9	**837**	**76.9**	823	78.3
429.mcf	8	1227	59.5	1228	59.4	**1228**	**59.4**	8	1226	59.5	1224	59.6	**1225**	**59.6**
445.gobmk	8	**714**	**118**	712	118	717	117	8	659	127	**658**	**128**	657	128
456.hmmer	8	**771**	**96.8**	770	96.9	771	96.8	8	**618**	**121**	615	121	620	120
458.sjeng	8	**897**	**108**	897	108	893	108	8	799	121	**799**	**121**	799	121
462.libquantum	8	3496	47.4	**3496**	**47.4**	3496	47.4	8	**3357**	**49.4**	3361	49.3	3357	49.4
464.h264ref	8	**946**	**187**	946	187	945	187	8	902	196	899	197	**900**	**197**
471.omnetpp	8	1041	48.0	**1042**	**48.0**	1042	48.0	8	1025	48.8	**1025**	**48.8**	1025	48.8
473.astar	8	945	59.4	945	59.5	**945**	**59.5**	8	887	63.3	890	63.1	**890**	**63.1**
483.xalancbmk	8	**553**	**99.7**	554	99.6	553	99.8	8	**553**	**99.7**	554	99.6	553	99.8

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`

Continued on next page

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`

Continued on next page

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.20090714.45.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.20090714.45.xml`

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