SPEC® CINT2006 Result

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IBM Corporation

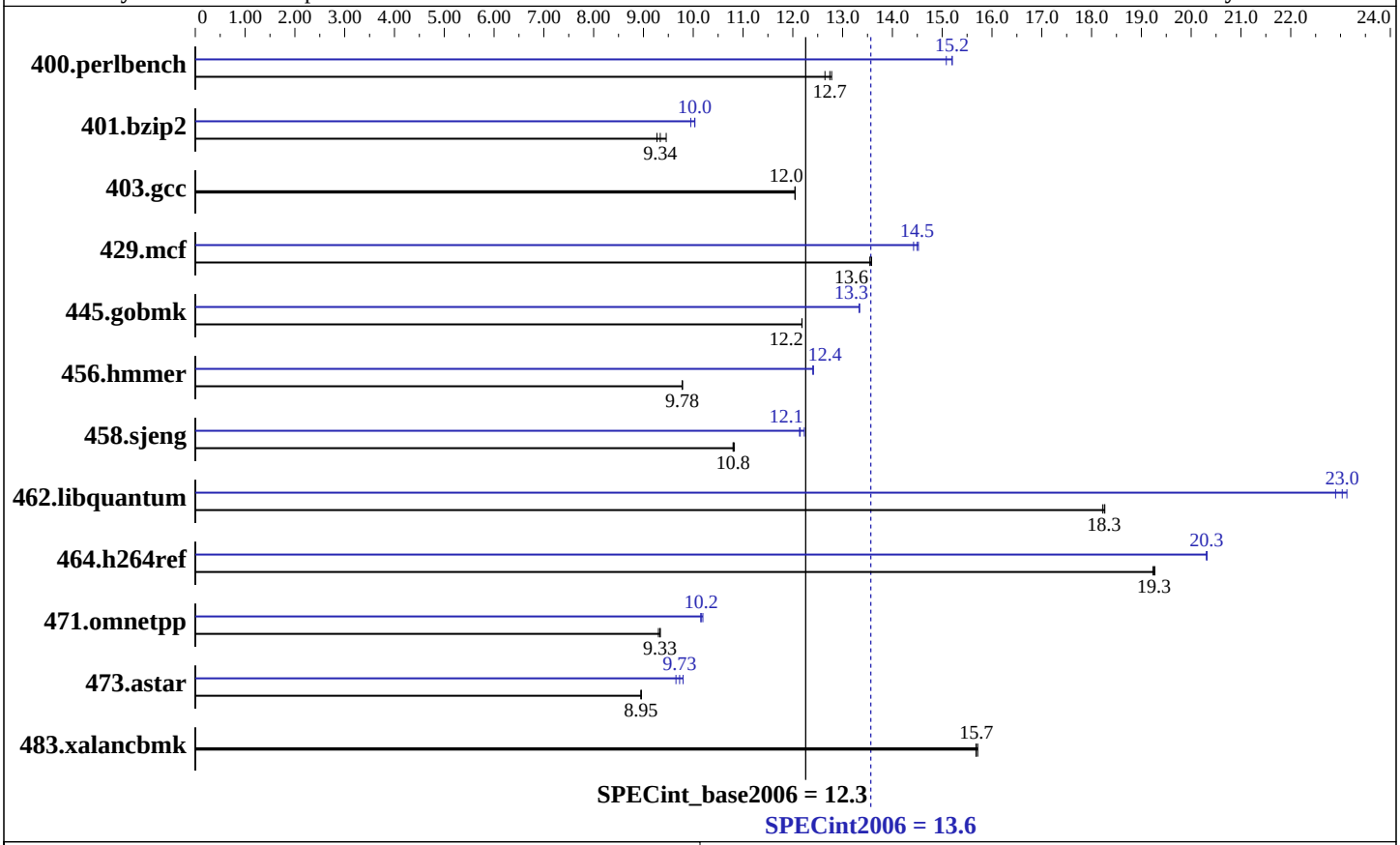
IBM BladeCenter HS21 (Intel Xeon E5320)

SPECint®2006 = 13.6

SPECint_base2006 = 12.3

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 E5320
CPU Characteristics:	1066MHz system bus
CPU MHz:	1866
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: 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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	**767**	**12.7**	764	12.8	773	12.6	**643**	**15.2**	643	15.2	648	15.1
401.bzip2	1041	9.27	1020	9.46	**1033**	**9.34**	970	9.95	962	10.0	**962**	**10.0**
403.gcc	668	12.0	668	12.0	**668**	**12.0**	668	12.0	668	12.0	**668**	**12.0**
429.mcf	671	13.6	**673**	**13.6**	673	13.6	628	14.5	**629**	**14.5**	632	14.4
445.gobmk	861	12.2	861	12.2	**861**	**12.2**	786	13.3	787	13.3	**786**	**13.3**
456.hmmer	953	9.79	954	9.78	**954**	**9.78**	752	12.4	**752**	**12.4**	752	12.4
458.sjeng	1120	10.8	**1120**	**10.8**	1118	10.8	997	12.1	989	12.2	**996**	**12.1**
462.libquantum	**1135**	**18.3**	1137	18.2	1134	18.3	**900**	**23.0**	896	23.1	905	22.9
464.h264ref	1151	19.2	**1149**	**19.3**	1148	19.3	1089	20.3	1090	20.3	**1089**	**20.3**
471.omnetpp	672	9.30	669	9.34	**670**	**9.33**	616	10.2	**615**	**10.2**	613	10.2
473.astar	784	8.96	784	8.95	**784**	**8.95**	**722**	**9.73**	727	9.65	717	9.80
483.xalancbmk	439	15.7	440	15.7	**440**	**15.7**	439	15.7	440	15.7	**440**	**15.7**

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

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`

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`

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`

Continued on next page

Peak Optimization Flags (Continued)

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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