SPEC® CINT2006 Result

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Intel Corporation

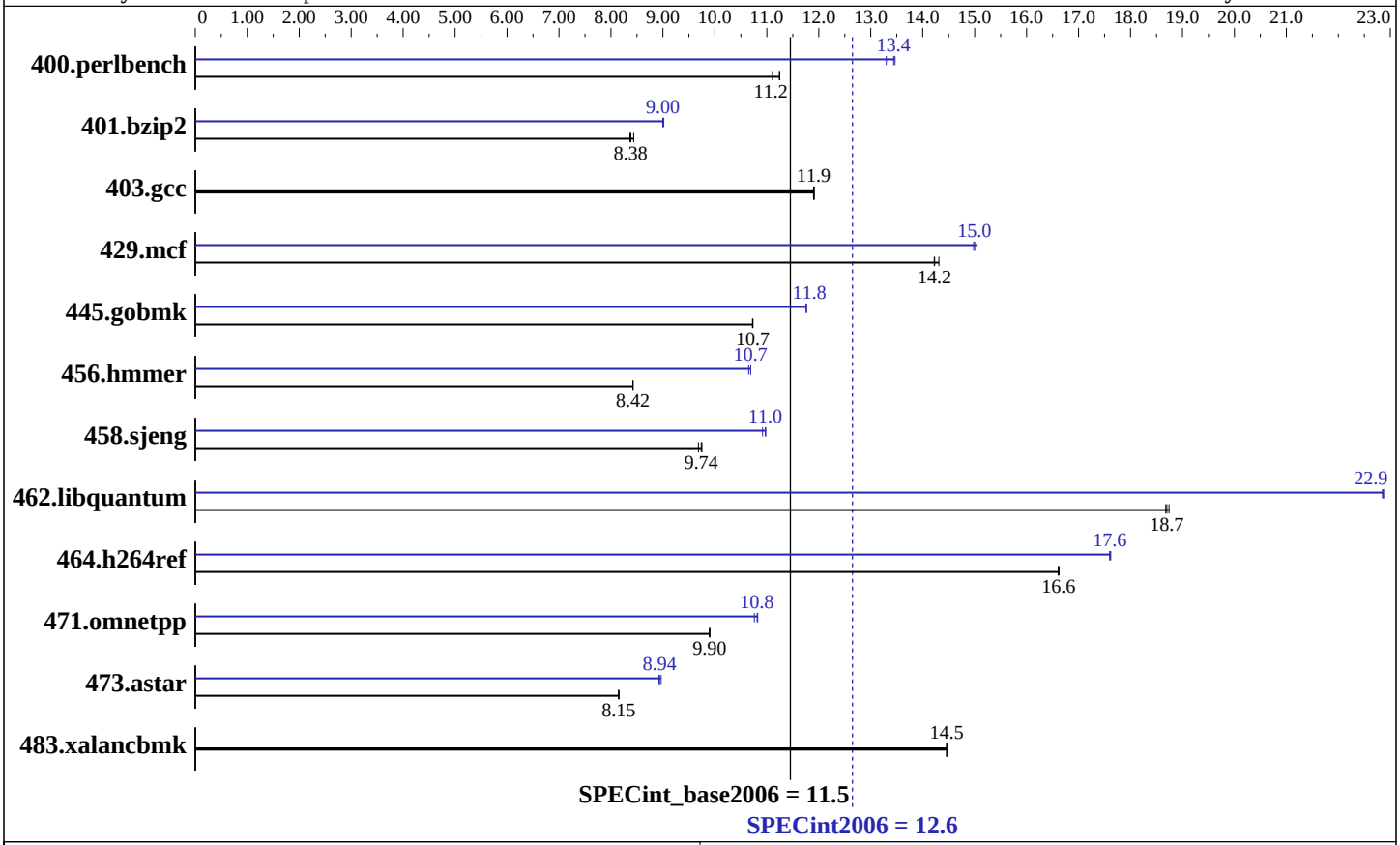
Supermicro X7DB8+ (Intel Xeon processor E5310, 1.60 GHz)

SPECint®2006 = 12.6

SPECint_base2006 = 11.5

CPU2006 license: 13
Test sponsor: Intel Corporation
Tested by: Intel Corporation

Test date: May-2007
Hardware Availability: Sep-2007
Software Availability: Jun-2007



Hardware

CPU Name:	Intel Xeon E5310
CPU Characteristics:	Quad Core, 1.60 GHz
CPU MHz:	1600
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 * 2GB Samsung DDR2 4200F, 2 rank, CL4-4-4, ECC)
Disk Subsystem:	Seagate, SCSI, 73GB, 10Krpm, 1 disk only
Other Hardware:	None

Software

Operating System:	64-Bit SUSE LINUX Enterprise Server 10, Kernel 2.6.16.21-0.8-smp for x86_64
Compiler:	Intel C++ Compiler for Linux32 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:	SmartHeap library V8.1 Binutils 2.17.50.0.15

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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	868	11.2	**869**	**11.2**	879	11.1	**727**	**13.4**	725	13.5	735	13.3
401.bzip2	1154	8.36	1144	8.44	**1151**	**8.38**	**1072**	**9.00**	1070	9.02	1073	9.00
403.gcc	**676**	**11.9**	677	11.9	676	11.9	**676**	**11.9**	677	11.9	676	11.9
429.mcf	641	14.2	**641**	**14.2**	637	14.3	**608**	**15.0**	609	15.0	606	15.0
445.gobmk	**978**	**10.7**	978	10.7	978	10.7	892	11.8	892	11.8	**892**	**11.8**
456.hmmer	1107	8.43	**1108**	**8.42**	1108	8.42	873	10.7	**873**	**10.7**	876	10.7
458.sjeng	**1243**	**9.74**	1241	9.75	1250	9.68	**1103**	**11.0**	1108	10.9	1102	11.0
462.libquantum	1106	18.7	1109	18.7	**1108**	**18.7**	907	22.8	**906**	**22.9**	906	22.9
464.h264ref	1332	16.6	1331	16.6	**1332**	**16.6**	**1257**	**17.6**	1256	17.6	1258	17.6
471.omnetpp	**631**	**9.90**	632	9.89	631	9.90	577	10.8	**578**	**10.8**	581	10.8
473.astar	862	8.14	861	8.15	**861**	**8.15**	787	8.92	783	8.97	**786**	**8.94**
483.xalancbmk	477	14.5	**477**	**14.5**	477	14.5	477	14.5	**477**	**14.5**	477	14.5

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

General Notes

```
Bios settings:
Hardware Prefetcher:      Enabled
Adjacent Sector Prefetch: Enabled
ulimit -s unlimited used to set stack size to unlimited
All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hmmer,
for peak, are compiled in 64-bit mode
```

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:

Continued on next page

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`

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.20090715.00.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.20090715.00.xml`

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