SPEC® CINT2006 Result

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Intel Corporation

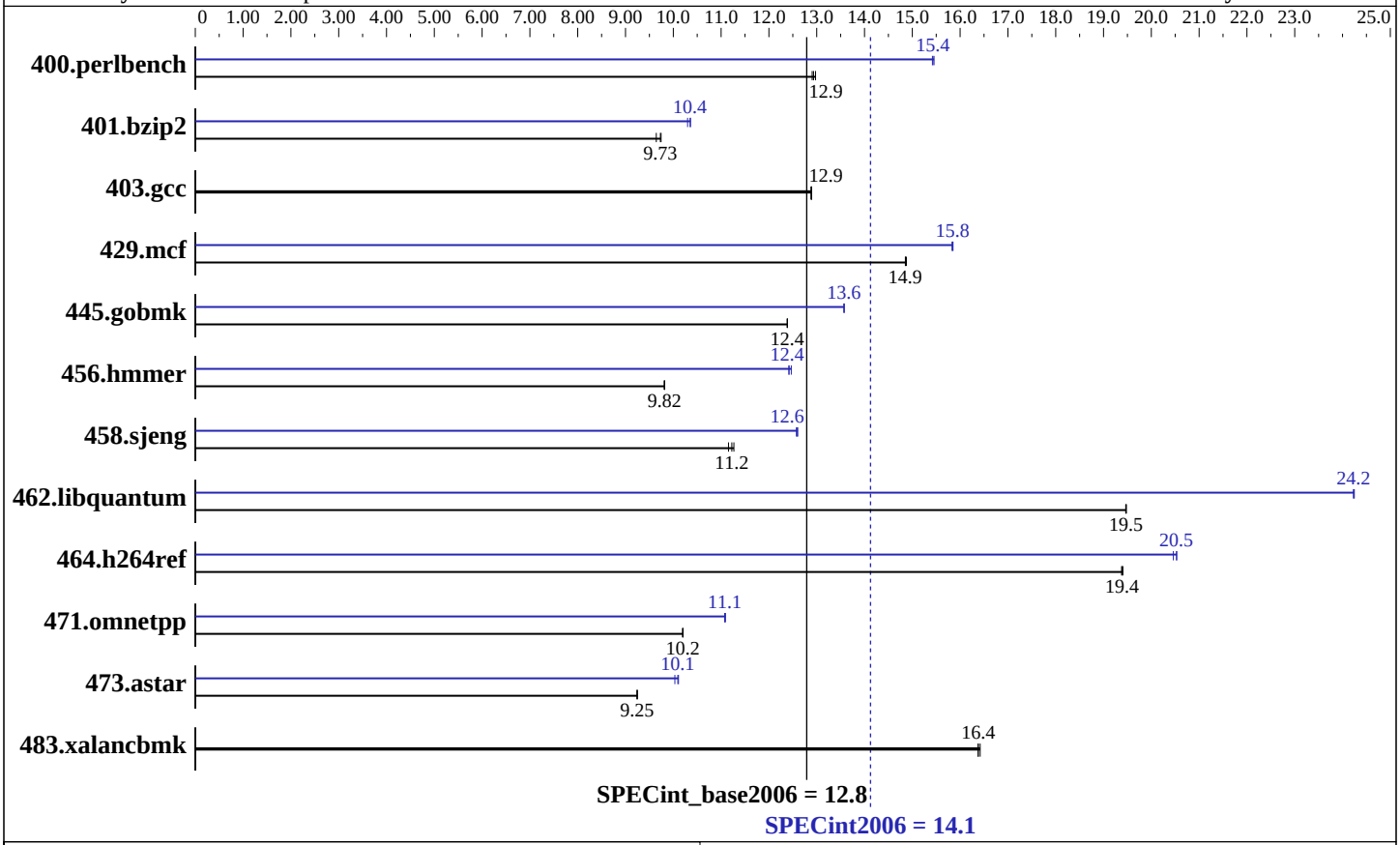
Supermicro X7DB8+ (Intel Xeon processor 5120, 1.86 GHz)

SPECint®2006 = 14.1

SPECint_base2006 = 12.8

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

Test date: May-2007
Hardware Availability: Nov-2006
Software Availability: Jun-2007



Hardware

CPU Name:	Intel Xeon 5120
CPU Characteristics:	Dual Core, 1.86 GHz
CPU MHz:	1866
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:	4 MB I+D on chip per chip
L3 Cache:	None
Other Cache:	None
Memory:	8 GB (8 * 1GB Samsung DDR2 5300F, 2 rank, CL5-5-5, 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	757	12.9	**755**	**12.9**	753	13.0	632	15.5	634	15.4	**633**	**15.4**
401.bzip2	**992**	**9.73**	990	9.74	1001	9.64	**932**	**10.4**	931	10.4	937	10.3
403.gcc	625	12.9	624	12.9	**624**	**12.9**	625	12.9	624	12.9	**624**	**12.9**
429.mcf	614	14.9	**614**	**14.9**	613	14.9	575	15.9	576	15.8	**576**	**15.8**
445.gobmk	847	12.4	847	12.4	**847**	**12.4**	773	13.6	773	13.6	**773**	**13.6**
456.hmmer	950	9.82	951	9.81	**951**	**9.82**	748	12.5	**751**	**12.4**	751	12.4
458.sjeng	1085	11.2	1074	11.3	**1078**	**11.2**	**961**	**12.6**	962	12.6	960	12.6
462.libquantum	1064	19.5	**1064**	**19.5**	1064	19.5	855	24.2	**855**	**24.2**	855	24.2
464.h264ref	1140	19.4	**1141**	**19.4**	1142	19.4	1078	20.5	**1078**	**20.5**	1082	20.5
471.omnetpp	**613**	**10.2**	613	10.2	613	10.2	564	11.1	**564**	**11.1**	564	11.1
473.astar	760	9.24	**759**	**9.25**	759	9.25	694	10.1	**695**	**10.1**	700	10.0
483.xalancbmk	420	16.4	**421**	**16.4**	421	16.4	420	16.4	**421**	**16.4**	421	16.4

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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