



SPEC® CINT2006 Result

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HITACHI

SPECint®2006 = **23.5**

HA8000-bd (Intel Core i7-610E)

SPECint_base2006 = 21.6

CPU2006 license: 872

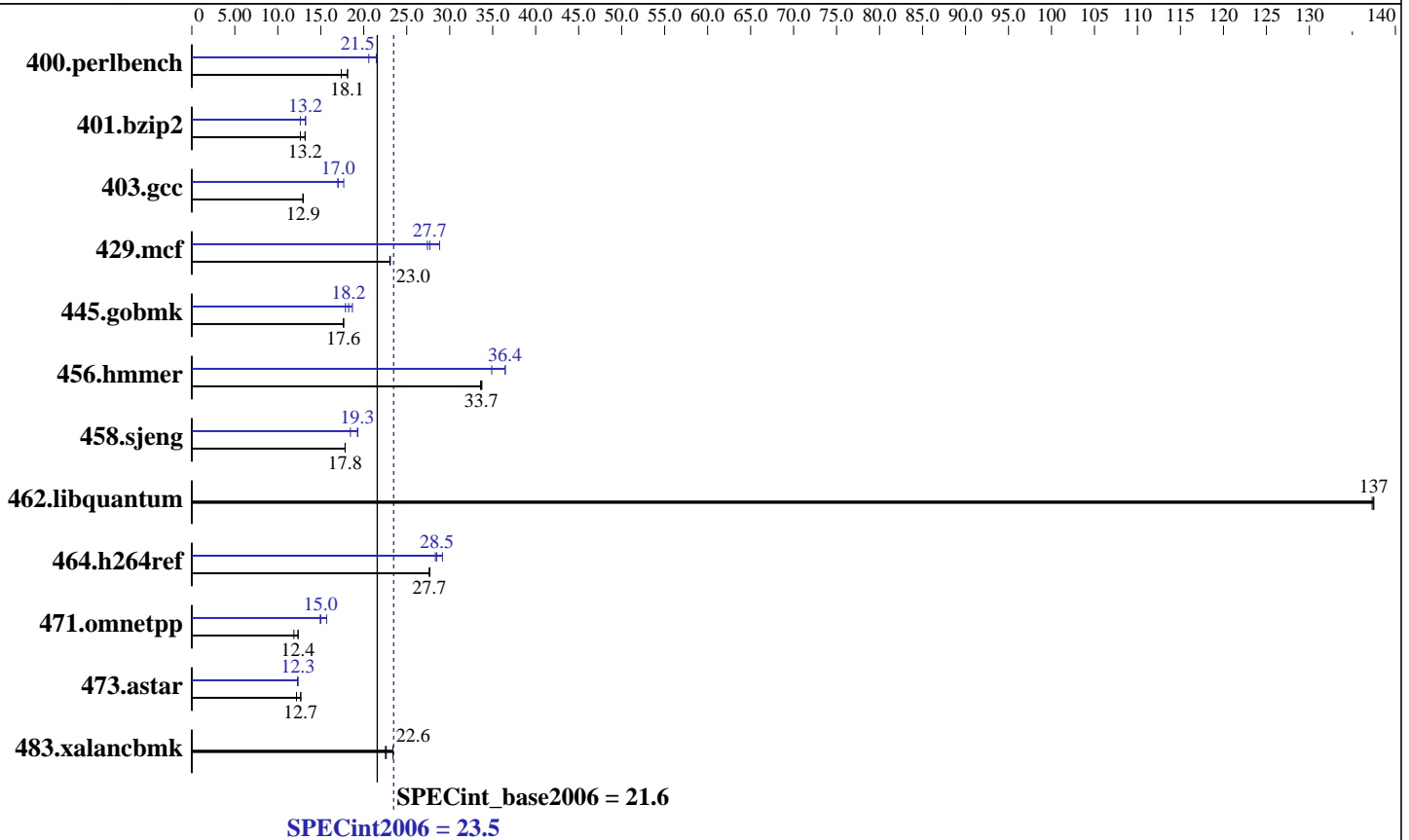
Test sponsor: HITACHI

Tested by: HITACHI

Test date: May-2010

Hardware Availability: Jul-2010

Software Availability: Dec-2009



Hardware

CPU Name: Intel Core i7-610E
 CPU Characteristics: Intel Turbo Boost Technology disabled
 CPU MHz: 2533
 FPU: Integrated
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip, 2 threads/core
 CPU(s) orderable: 1 chip
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core
 L3 Cache: 4 MB I+D on chip per chip
 Other Cache: None
 Memory: 8 GB(2 x 4 GB PC3-8500U, 2 rank, CL7)
 Disk Subsystem: 1 x 160 GB 7200 rpm SATA2
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 5.4, Advanced Platform, Kernel 2.6.18-164.el5 on an x86_64
 Compiler: Intel C++ Compiler 11.1 for Linux Build 20091012 Package ID: l_cproc_p_11.1.059
 Auto Parallel: Yes
 File System: ext3
 System State: Multi-user run level 3
 Base Pointers: 64-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V8.1



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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	562	17.4	540	18.1	539	18.1	455	21.5	475	20.6	455	21.5
401.bzip2	733	13.2	732	13.2	764	12.6	729	13.2	765	12.6	730	13.2
403.gcc	621	13.0	622	12.9	623	12.9	456	17.7	473	17.0	474	17.0
429.mcf	395	23.1	396	23.0	396	23.0	316	28.8	333	27.4	329	27.7
445.gobmk	595	17.6	595	17.6	594	17.7	562	18.7	575	18.2	587	17.9
456.hmmer	277	33.7	277	33.7	278	33.6	267	34.9	256	36.4	256	36.5
458.sjeng	679	17.8	678	17.8	679	17.8	627	19.3	628	19.3	656	18.5
462.libquantum	151	137	151	137	151	137	151	137	151	137	151	137
464.h264ref	799	27.7	800	27.7	801	27.6	777	28.5	759	29.2	781	28.3
471.omnetpp	505	12.4	506	12.4	526	11.9	418	14.9	399	15.7	417	15.0
473.astar	554	12.7	554	12.7	577	12.2	569	12.3	569	12.3	571	12.3
483.xalancbmk	305	22.6	295	23.4	306	22.5	305	22.6	295	23.4	306	22.5

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

Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to granularity=fine,scatter

Base Compiler Invocation

C benchmarks:
icc -m64

C++ benchmarks:
icpc -m64

Base Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64

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Base Portability Flags (Continued)

471.omnetpp: -DSPEC_CPU_LP64
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch

C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/home/bsc/smartheap/lib -lsmartheap64

Base Other Flags

C benchmarks:
403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
icc -m64

400.perlbench: icc -m32

429.mcf: icc -m32

445.gobmk: icc -m32

464.h264ref: icc -m32

C++ benchmarks (except as noted below):
icpc -m64

471.omnetpp: icpc -m32

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64

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Peak Portability Flags (Continued)

403.gcc: -DSPEC_CPU_LP64
 456.hmmer: -DSPEC_CPU_LP64
 458.sjeng: -DSPEC_CPU_LP64
 462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
 473.astar: -DSPEC_CPU_LP64
 483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
 -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
 -prof-use(pass 2) -ansi-alias -opt-prefetch

401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
 -O3(pass 2) -no-prec-div -static(pass 2) -prof-use(pass 2)
 -auto-ilp32 -opt-prefetch -ansi-alias

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -static -inline-alloc
 -opt-malloc-options=3 -auto-ilp32

429.mcf: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -O2
 -ipo -no-prec-div -ansi-alias

456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2
 -ansi-alias -auto-ilp32

458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
 -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
 -prof-use(pass 2) -unroll4

462.libquantum: basepeak = yes

464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
 -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
 -prof-use(pass 2) -unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
 -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
 -ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs
 -L/home/bsc/smartheap/lib -lsmartheap

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Peak Optimization Flags (Continued)

```
473.astar: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
           -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
           -ansi-alias -opt-ra-region-strategy=routine -Wl,-z,muldefs
           -L/home/bsc/smartheap/lib -lsmartheap64
```

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-ic11.1-linux64-revE.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.xml>

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For other inquiries, please contact webmaster@spec.org.

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