SPEC® CINT2006 Result

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HITACHI

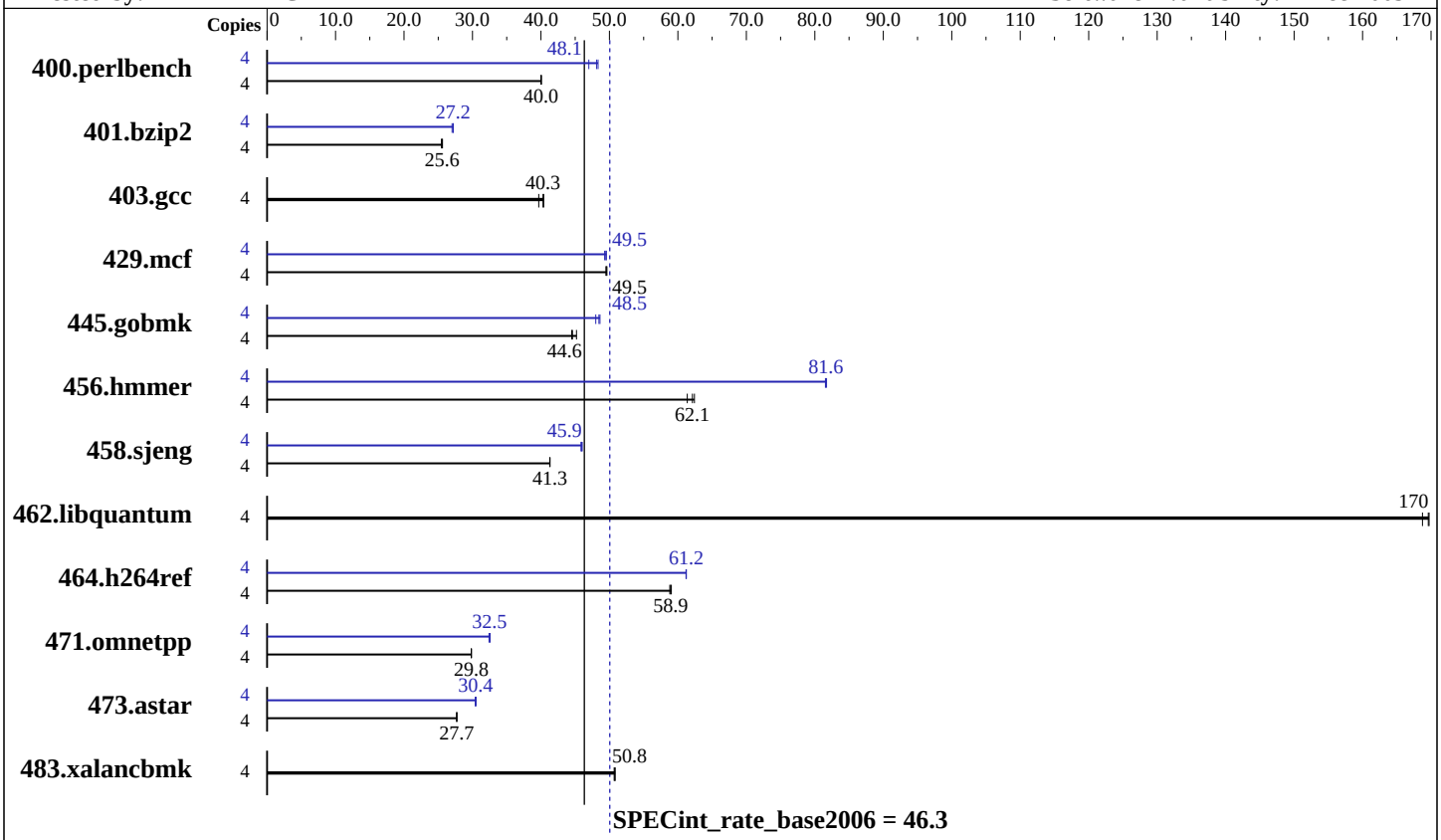
HA8000-bd (Intel Core i5-520E)

SPECint®_rate2006 = 50.1

SPECint_rate_base2006 = 46.3

CPU2006 license: 872
Test sponsor: HITACHI
Tested by: HITACHI

Test date: Jun-2010
Hardware Availability: Jul-2010
Software Availability: Dec-2009



Hardware

CPU Name:	Intel Core i5-520E
CPU Characteristics:	Intel Turbo Boost Technology disabled
CPU MHz:	2400
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:	3 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 500 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:	No
File System:	ext3
System State:	Multi-user run level 3
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	Microquill SmartHeap V8.1

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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	4	975	40.1	977	40.0	**977**	**40.0**	4	**812**	**48.1**	832	47.0	808	48.3
401.bzip2	4	1517	25.5	1507	25.6	**1510**	**25.6**	4	1429	27.0	**1421**	**27.2**	1419	27.2
403.gcc	4	812	39.7	797	40.4	**799**	**40.3**	4	812	39.7	797	40.4	**799**	**40.3**
429.mcf	4	737	49.5	**737**	**49.5**	735	49.6	4	740	49.3	736	49.6	**737**	**49.5**
445.gobmk	4	929	45.2	943	44.5	**941**	**44.6**	4	**866**	**48.5**	863	48.6	874	48.0
456.hmmer	4	**601**	**62.1**	608	61.4	598	62.4	4	**457**	**81.6**	457	81.7	458	81.5
458.sjeng	4	1172	41.3	1171	41.3	**1172**	**41.3**	4	1056	45.8	**1054**	**45.9**	1052	46.0
462.libquantum	4	491	169	488	170	**489**	**170**	4	491	169	488	170	**489**	**170**
464.h264ref	4	1505	58.8	**1502**	**58.9**	1499	59.0	4	1447	61.2	**1446**	**61.2**	1446	61.2
471.omnetpp	4	**838**	**29.8**	838	29.8	837	29.9	4	768	32.6	771	32.4	**769**	**32.5**
473.astar	4	**1014**	**27.7**	1014	27.7	1013	27.7	4	920	30.5	924	30.4	**922**	**30.4**
483.xalancbmk	4	**543**	**50.8**	544	50.7	543	50.8	4	**543**	**50.8**	544	50.7	543	50.8

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

Submit Notes

```
The config file option 'submit' was used.
'/usr/bin/numactl' used to bind processes to CPUs
```

Operating System Notes

```
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
```

Base Compiler Invocation

C benchmarks:

```
icc -m32
```

C++ benchmarks:

```
icpc -m32
```

Base Portability Flags

400.perlbench: `-DSPEC_CPU_LINUX_IA32`
462.libquantum: `-DSPEC_CPU_LINUX`
483.xalancbmk: `-DSPEC_CPU_LINUX`

Base Optimization Flags

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

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

Base Other Flags

C benchmarks:

403.gcc: `-Dalloca=_alloca`

Peak Compiler Invocation

C benchmarks (except as noted below):
`icc -m32`

401.bzip2: `icc -m64`

456.hmmer: `icc -m64`

458.sjeng: `icc -m64`

C++ benchmarks (except as noted below):
`icpc -m32`

473.astar: `icpc -m64`

Peak Portability Flags

400.perlbench: `-DSPEC_CPU_LINUX_IA32`
401.bzip2: `-DSPEC_CPU_LP64`
456.hmmer: `-DSPEC_CPU_LP64`
458.sjeng: `-DSPEC_CPU_LP64`
462.libquantum: `-DSPEC_CPU_LINUX`
473.astar: `-DSPEC_CPU_LP64`
483.xalancbmk: `-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

401.bzip2: -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) -opt-prefetch -ansi-alias -auto-ilp32

403.gcc: basepeak = yes

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 -auto-ilp32

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

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:

Continued on next page

Peak Other Flags (Continued)

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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