SPEC® CINT2006 Result

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HITACHI

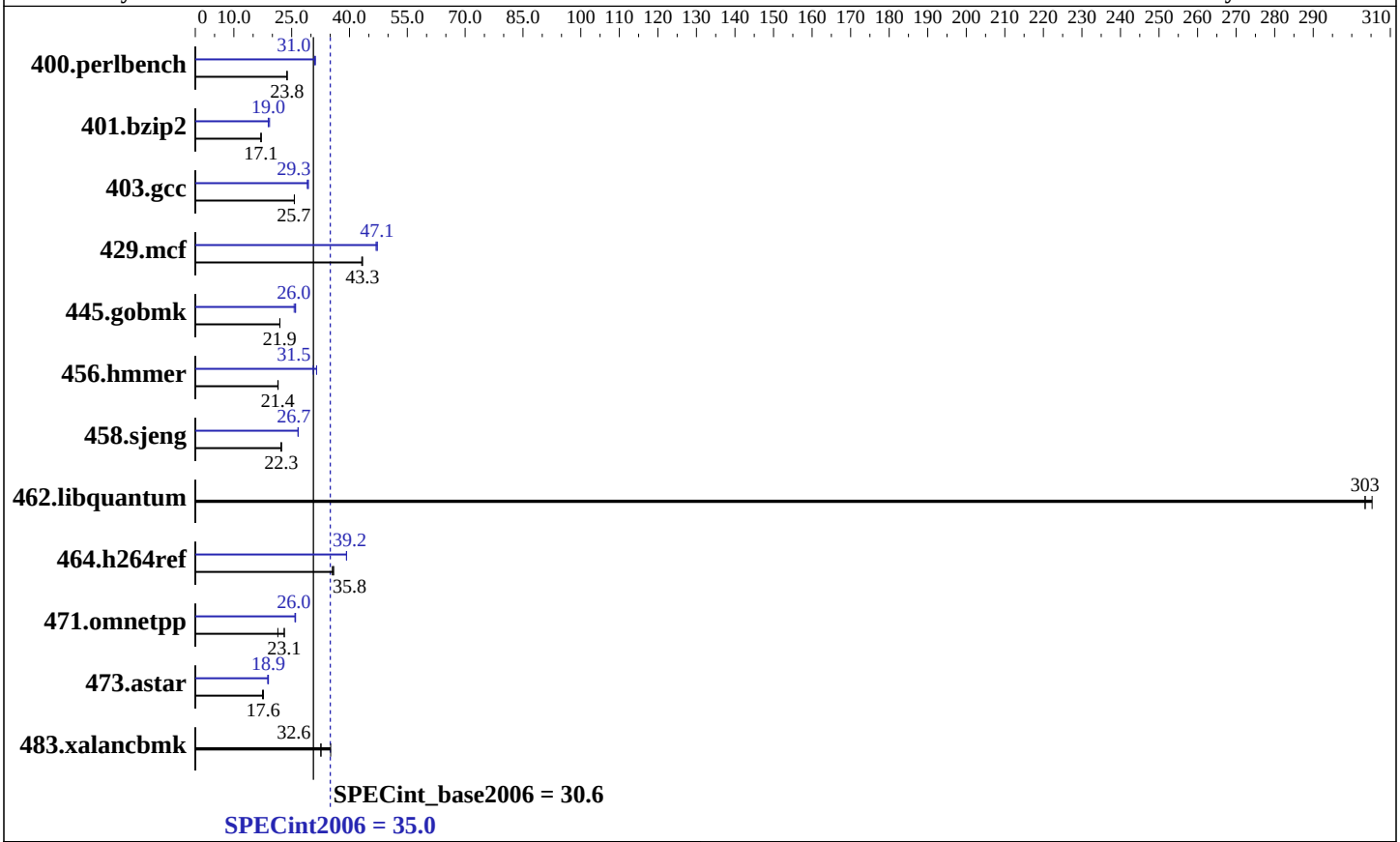
BladeSymphony BS320 (Intel Xeon X5570)

SPECint®2006 = 35.0

SPECint_base2006 = 30.6

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

Test date: Mar-2009
Hardware Availability: Mar-2009
Software Availability: Feb-2009



Hardware

CPU Name:	Intel Xeon X5570
CPU Characteristics:	Intel Turbo Boost Technology up to 3.33 GHz
CPU MHz:	2933
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:	256 KB I+D on chip per core
L3 Cache:	8 MB I+D on chip per chip
Other Cache:	None
Memory:	24 GB(6 x 4 GB PC3-10600R, 2 rank, CL=9)
Disk Subsystem:	1 x 73 GB 10000 rpm SAS
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Server release 5.3, Advanced Platform, Kernel 2.6.18-128.el5 on an x86_64
Compiler:	Intel C++ Compiler 11.0 for Linux Build 20090131 Package ID: l_cproc_p_11.0.081
Auto Parallel:	Yes
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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	411	23.8	**411**	**23.8**	410	23.8	**315**	**31.0**	314	31.2	316	30.9
401.bzip2	567	17.0	**565**	**17.1**	565	17.1	510	18.9	501	19.3	**508**	**19.0**
403.gcc	313	25.7	**313**	**25.7**	313	25.7	275	29.3	277	29.0	**275**	**29.3**
429.mcf	210	43.3	**210**	**43.3**	211	43.2	**193**	**47.1**	195	46.9	193	47.2
445.gobmk	**478**	**21.9**	478	21.9	478	22.0	409	25.6	403	26.0	**404**	**26.0**
456.hmmer	436	21.4	**435**	**21.4**	434	21.5	305	30.6	296	31.5	**297**	**31.5**
458.sjeng	**542**	**22.3**	542	22.3	544	22.2	454	26.7	**454**	**26.7**	453	26.7
462.libquantum	68.3	303	67.9	305	**68.3**	**303**	68.3	303	67.9	305	**68.3**	**303**
464.h264ref	623	35.5	**618**	**35.8**	617	35.9	564	39.2	**564**	**39.2**	564	39.2
471.omnetpp	271	23.1	292	21.4	**271**	**23.1**	**241**	**26.0**	240	26.0	242	25.8
473.astar	**399**	**17.6**	402	17.4	398	17.6	**370**	**18.9**	374	18.8	370	19.0
483.xalancbmk	**211**	**32.6**	196	35.1	212	32.5	**211**	**32.6**	196	35.1	212	32.5

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 physical,0
```

Platform Notes

```
BIOS Settings:
 Intel HT Technology = Disabled
```

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:
```
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel
-par-runtime-control -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
```

401.bzip2:
```
/opt/intel/Compiler/11.0/081/bin/intel64/icc
-L/opt/intel/Compiler/11.0/081/ipp/em64t/lib
-I/opt/intel/Compiler/11.0/081/ipp/em64t/include
```

456.hmmer:
```
/opt/intel/Compiler/11.0/081/bin/intel64/icc
-L/opt/intel/Compiler/11.0/081/ipp/em64t/lib
-I/opt/intel/Compiler/11.0/081/ipp/em64t/include
```

458.sjeng:
```
/opt/intel/Compiler/11.0/081/bin/intel64/icc
-L/opt/intel/Compiler/11.0/081/ipp/em64t/lib
-I/opt/intel/Compiler/11.0/081/ipp/em64t/include
```

C++ benchmarks:
```
icpc
```

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`
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 -opt-prefetch

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) -auto-ilp32 -opt-prefetch -ansi-alias

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

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 -lsmartheap

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-ic11.0-int-linux64-revA.20090713.05.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090713.05.xml`

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