SPEC® CINT2006 Result

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HITACHI

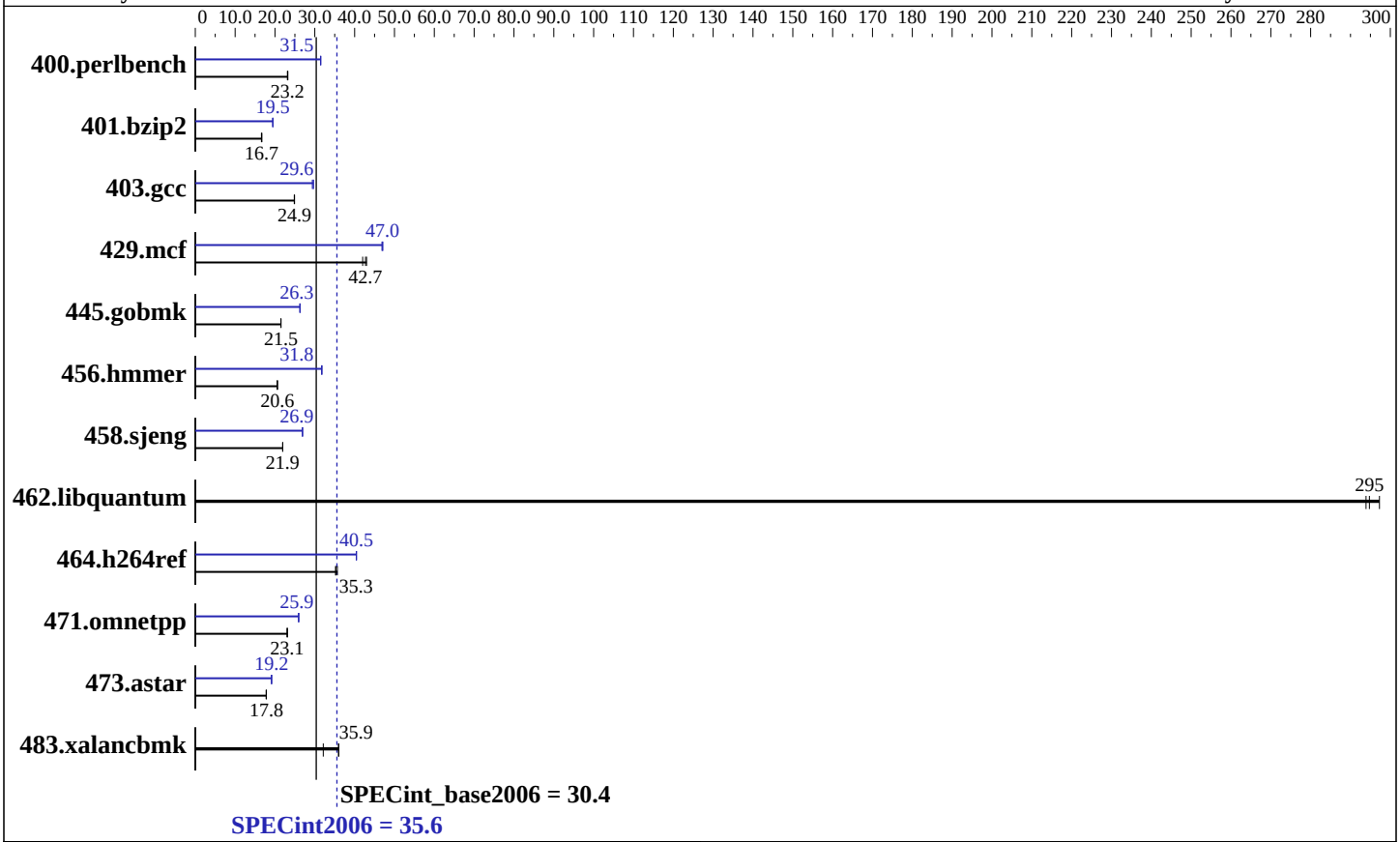
BladeSymphony BS2000 (Intel Xeon X5570)

SPECint®2006 = 35.6

SPECint_base2006 = 30.4

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 147 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	422	23.1	**422**	**23.2**	420	23.2	**310**	**31.5**	310	31.5	311	31.5
401.bzip2	581	16.6	**579**	**16.7**	578	16.7	**496**	**19.5**	496	19.5	496	19.5
403.gcc	324	24.8	323	24.9	**324**	**24.9**	274	29.4	272	29.6	**272**	**29.6**
429.mcf	217	42.0	212	43.0	**213**	**42.7**	195	46.9	**194**	**47.0**	194	47.1
445.gobmk	**488**	**21.5**	488	21.5	488	21.5	**399**	**26.3**	399	26.3	399	26.3
456.hmmer	453	20.6	452	20.6	**453**	**20.6**	**294**	**31.8**	294	31.8	294	31.7
458.sjeng	551	22.0	**551**	**21.9**	551	21.9	**450**	**26.9**	450	26.9	450	26.9
462.libquantum	70.5	294	**70.3**	**295**	69.7	297	70.5	294	**70.3**	**295**	69.7	297
464.h264ref	628	35.2	**627**	**35.3**	621	35.7	**547**	**40.5**	547	40.5	548	40.4
471.omnetpp	270	23.1	**271**	**23.1**	271	23.1	**241**	**25.9**	241	26.0	241	25.9
473.astar	**393**	**17.8**	395	17.8	393	17.8	366	19.2	**367**	**19.2**	367	19.1
483.xalancbmk	215	32.1	192	36.0	**192**	**35.9**	215	32.1	192	36.0	**192**	**35.9**

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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