SPEC® CINT2006 Result

Hewlett-Packard Company

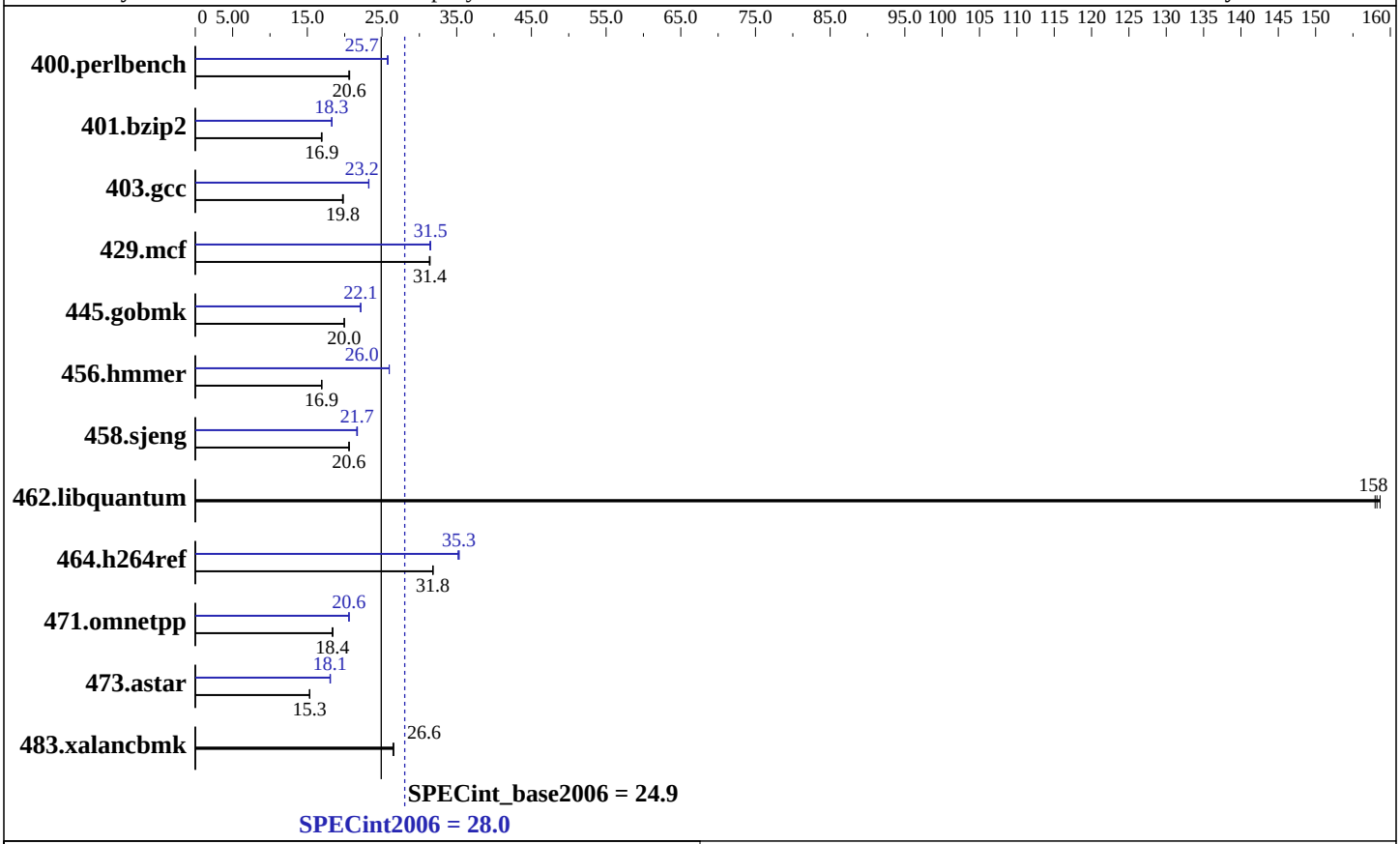
ProLiant DL320 G5p
(3.00 GHz, Intel Xeon X3370)

SPECint®2006 = 28.0

SPECint_base2006 = 24.9

CPU2006 license: 3
Test sponsor: Hewlett-Packard Company
Tested by: Hewlett-Packard Company

Test date: Sep-2008
Hardware Availability: Sep-2008
Software Availability: Nov-2008



Hardware

CPU Name:	Intel Xeon X3370
CPU Characteristics:	3.0 GHz, 2x6MB L2 shared, 1333 MHz system bus
CPU MHz:	3000
FPU:	Integrated
CPU(s) enabled:	4 cores, 1 chip, 4 cores/chip
CPU(s) orderable:	1 chip
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	12 MB I+D on chip per chip, 6 MB shared / 2 cores
L3 Cache:	None
Other Cache:	None
Memory:	8 GB(4x2 GB PC2-6400E CL6)
Disk Subsystem:	250 GB 7.2 K SATA
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 10 (x86_64) SP1, Kernel 2.6.16.46-0.12-smp
Compiler:	Intel C++ Compiler 10.1 for Linux Build 20080730 Package ID: l_cproc_b_11.0.042
Auto Parallel:	Yes
File System:	ext3
System State:	Run level 3 (multi-user)
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	Microquill SmartHeap V8.1 Binutils 2.18.50.0.7.20080502

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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	475	20.6	473	20.7	**474**	**20.6**	380	25.7	379	25.8	**380**	**25.7**
401.bzip2	569	17.0	572	16.9	**570**	**16.9**	528	18.3	**528**	**18.3**	528	18.3
403.gcc	406	19.8	**407**	**19.8**	408	19.7	347	23.2	346	23.3	**346**	**23.2**
429.mcf	291	31.3	**290**	**31.4**	290	31.4	**290**	**31.5**	290	31.4	289	31.5
445.gobmk	526	19.9	**526**	**20.0**	526	20.0	474	22.1	**474**	**22.1**	474	22.1
456.hmmer	551	16.9	**551**	**16.9**	551	16.9	**359**	**26.0**	359	26.0	359	26.0
458.sjeng	589	20.6	587	20.6	**588**	**20.6**	560	21.6	557	21.7	**558**	**21.7**
462.libquantum	131	159	131	158	**131**	**158**	131	159	131	158	**131**	**158**
464.h264ref	**695**	**31.8**	696	31.8	695	31.8	**627**	**35.3**	627	35.3	629	35.2
471.omnetpp	339	18.4	**340**	**18.4**	341	18.3	304	20.6	**304**	**20.6**	303	20.6
473.astar	**459**	**15.3**	459	15.3	459	15.3	**389**	**18.1**	388	18.1	389	18.0
483.xalancbmk	260	26.6	261	26.5	**260**	**26.6**	260	26.6	261	26.5	**260**	**26.6**

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

Operating System Notes

```
OMP_NUM_THREADS set to number of processors
KMP_AFFINITY set to "physical,0"
```

General Notes

```
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:
```
-xSSE4.1 -ipo -O3 -no-prec-div -static -parallel
-par-runtime-control -opt-prefetch
```

C++ benchmarks:
```
-xSSE4.1 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/spec/cpu2006.1.1/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/11.0/042/bin/intel64/icc
-L/opt/intel/Compiler/11.0/042/ipp/em64t/lib
-I/opt/intel/Compiler/11.0/042/ipp/em64t/include
```

456.hmmer:
```
/opt/intel/Compiler/11.0/042/bin/intel64/icc
-L/opt/intel/Compiler/11.0/042/ipp/em64t/lib
-I/opt/intel/Compiler/11.0/042/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`
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) -xSSE4.1 -ipo -O3 -no-prec-div -static -ansi-alias -opt-prefetch

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

403.gcc: -xSSE4.1 -ipo -O3 -no-prec-div -static -inline-calloc -opt-malloc-options=3

429.mcf: -xSSE4.1 -ipo -O3 -no-prec-div -static -opt-prefetch

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

456.hmmer: -xSSE4.1 -ipo -O3 -no-prec-div -static -unroll2 -ansi-alias -auto-ilp32

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

462.libquantum: basepeak = yes

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

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3 -no-prec-div -ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap

473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3 -no-prec-div -ansi-alias -opt-ra-region-strategy=routine -Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/HP-Intel-Linux-Settings-flags.20090713.00.html
http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revD.20090713.01.html

You can also download the XML flags sources by saving the following links:

http://www.spec.org/cpu2006/flags/HP-Intel-Linux-Settings-flags.20090713.00.xml
http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revD.20090713.01.xml

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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