SPEC® CINT2006 Result

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Hewlett-Packard Company

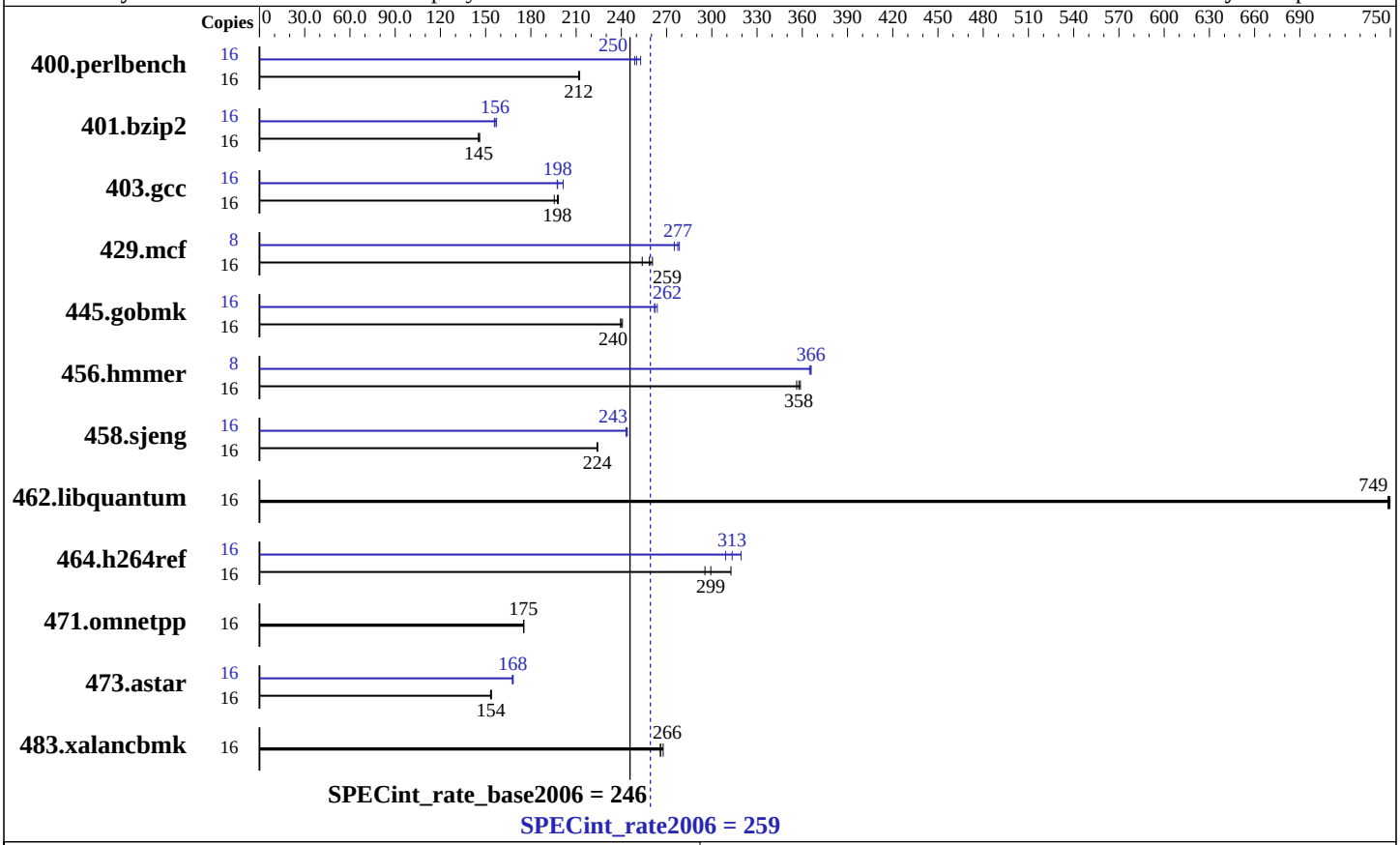
ProLiant SL2x170z G6
(2.93 GHz, Intel Xeon X5570)

SPECint®_rate2006 = 259

SPECint_rate_base2006 = 246

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

Test date: Oct-2009
Hardware Availability: Sep-2009
Software Availability: Sep-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, 2 threads/core
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 (6x4 GB DDR3-10600R CL9)
Disk Subsystem:	1x160 GB 7.2 K 3.5" SATA
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Server release 5.3 Kernel 2.6.18-128.el5
Compiler:	Intel C++ Compiler 11.1 for Linux Build 20090827 Package ID: l_cproc_p_11.1.056
Auto Parallel:	No
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 2.17.50.0.18

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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	16	739	212	736	212	**738**	**212**	16	618	253	628	249	**625**	**250**
401.bzip2	16	1063	145	1057	146	**1062**	**145**	16	991	156	982	157	**988**	**156**
403.gcc	16	**652**	**198**	650	198	659	196	16	639	201	652	197	**651**	**198**
429.mcf	16	575	254	**564**	**259**	560	261	8	265	275	262	278	**263**	**277**
445.gobmk	16	701	240	697	241	**701**	**240**	16	**640**	**262**	636	264	641	262
456.hmmer	16	419	356	416	359	**417**	**358**	8	205	365	204	366	**204**	**366**
458.sjeng	16	863	224	865	224	**864**	**224**	16	794	244	**795**	**243**	796	243
462.libquantum	16	442	750	**443**	**749**	443	748	16	442	750	**443**	**749**	443	748
464.h264ref	16	**1183**	**299**	1132	313	1198	295	16	**1129**	**313**	1108	319	1145	309
471.omnetpp	16	571	175	570	175	**571**	**175**	16	571	175	570	175	**571**	**175**
473.astar	16	733	153	**731**	**154**	730	154	16	668	168	670	168	**668**	**168**
483.xalancbmk	16	**415**	**266**	412	268	415	266	16	**415**	**266**	412	268	415	266

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.
 numactl was used to bind copies to the cores
```

Operating System Notes

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

Platform Notes

```
BIOS configuration:
 Power Efficiency Mode set to Performance
```

General Notes

```
The ProLiant SL2x170z G6 and ProLiant SL170z G6 models are electronically equivalent.
The results have been measured on the ProLiant SL2x170z G6 model.
```

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 -inline-calloc
-opt-malloc-options=3 -opt-prefetch

C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/cpu2006/SmartHeap_8.1/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/11.1/056/bin/intel64/icc

456.hmmer: /opt/intel/Compiler/11.1/056/bin/intel64/icc

458.sjeng: /opt/intel/Compiler/11.1/056/bin/intel64/icc

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

Continued on next page

Peak Portability Flags (Continued)

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

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

429.mcf: -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

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: basepeak = yes

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/cpu2006/SmartHeap_8.1/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.20091110.html`
`http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20091110.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.20091110.xml`
`http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20091110.xml`

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

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