SPEC® CINT2006 Result

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Hewlett-Packard Company

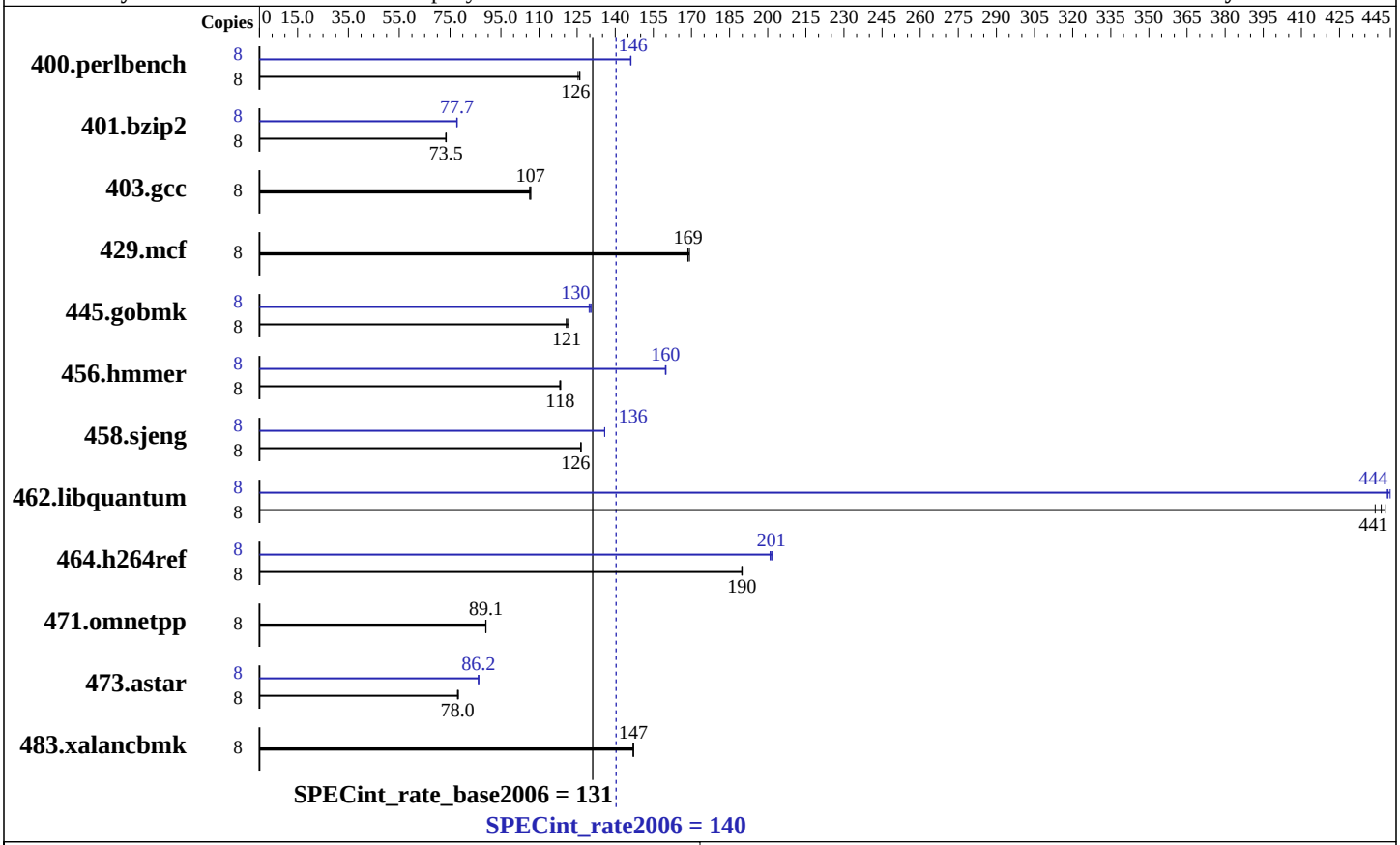
ProLiant ML350 G6
(2.13 GHz, Intel Xeon E5506)

SPECint®_rate2006 = 140

SPECint_rate_base2006 = 131

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

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



Hardware

CPU Name:	Intel Xeon E5506
CPU Characteristics:	
CPU MHz:	2133
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:	4 MB I+D on chip per chip
Other Cache:	None
Memory:	24 GB (6x4 GB PC3-10600R CL9, running at 800 MHz)
Disk Subsystem:	1x120 GB 5.4 K SFF SATA
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Server release 5.3 Kernel 2.6.18-53.el5
Compiler:	Intel C++ Compiler 11.0 for Linux Build 20090131 Package ID: l_cproc_p_11.0.080
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 2.18.50.0.7.20080502

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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	8	623	125	620	126	**620**	**126**	8	535	146	535	146	**535**	**146**
401.bzip2	8	**1051**	**73.5**	1050	73.5	1053	73.3	8	**994**	**77.7**	992	77.8	995	77.6
403.gcc	8	606	106	603	107	**604**	**107**	8	606	106	603	107	**604**	**107**
429.mcf	8	**432**	**169**	433	169	431	169	8	**432**	**169**	433	169	431	169
445.gobmk	8	**694**	**121**	690	122	695	121	8	**645**	**130**	643	130	647	130
456.hmmer	8	632	118	**631**	**118**	630	119	8	467	160	467	160	**467**	**160**
458.sjeng	8	765	127	765	126	**765**	**126**	8	712	136	713	136	**712**	**136**
462.libquantum	8	**376**	**441**	378	439	374	443	8	**373**	**444**	373	445	373	444
464.h264ref	8	932	190	**932**	**190**	933	190	8	878	202	881	201	**879**	**201**
471.omnetpp	8	561	89.2	**561**	**89.1**	562	89.0	8	561	89.2	**561**	**89.1**	562	89.0
473.astar	8	717	78.3	720	78.0	**720**	**78.0**	8	652	86.2	651	86.3	**651**	**86.2**
483.xalancbmk	8	375	147	**375**	**147**	375	147	8	375	147	**375**	**147**	375	147

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:
   HP Power Regulator set to Static High Performance Mode
   HP Power Profile set to Maximum Performance mode
   Thermal Configuration set to Increased Cooling
```

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/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/11.0/080/bin/intel64/icc

456.hmmer: /opt/intel/Compiler/11.0/080/bin/intel64/icc

458.sjeng: /opt/intel/Compiler/11.0/080/bin/intel64/icc

C++ benchmarks (except as noted below):
icpc

473.astar: /opt/intel/Compiler/11.0/080/bin/intel64/icpc

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64

Continued on next page

Peak Portability Flags (Continued)

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 -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: basepeak = yes

429.mcf: basepeak = yes

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: -xSSE4.2 -ipo -O3 -no-prec-div -static
-opt-malloc-options=3 -opt-prefetch

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 -auto-ilp32
-Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap64

Continued on next page

Peak Optimization Flags (Continued)

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/Intel-ic11.0-int-linux64-revA.20090710.10.html`
`http://www.spec.org/cpu2006/flags/HP-Intel-Linux-Settings-flags.20090818.html`

You can also download the XML flags sources by saving the following links:
`http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090710.10.xml`
`http://www.spec.org/cpu2006/flags/HP-Intel-Linux-Settings-flags.20090818.xml`

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

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