



SPEC[®] CINT2006 Result

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Hewlett-Packard Company

SPECint[®]_rate2006 = 245

ProLiant DL380 G6
(2.80 GHz, Intel Xeon X5560)

SPECint_rate_base2006 = 228

CPU2006 license: 3

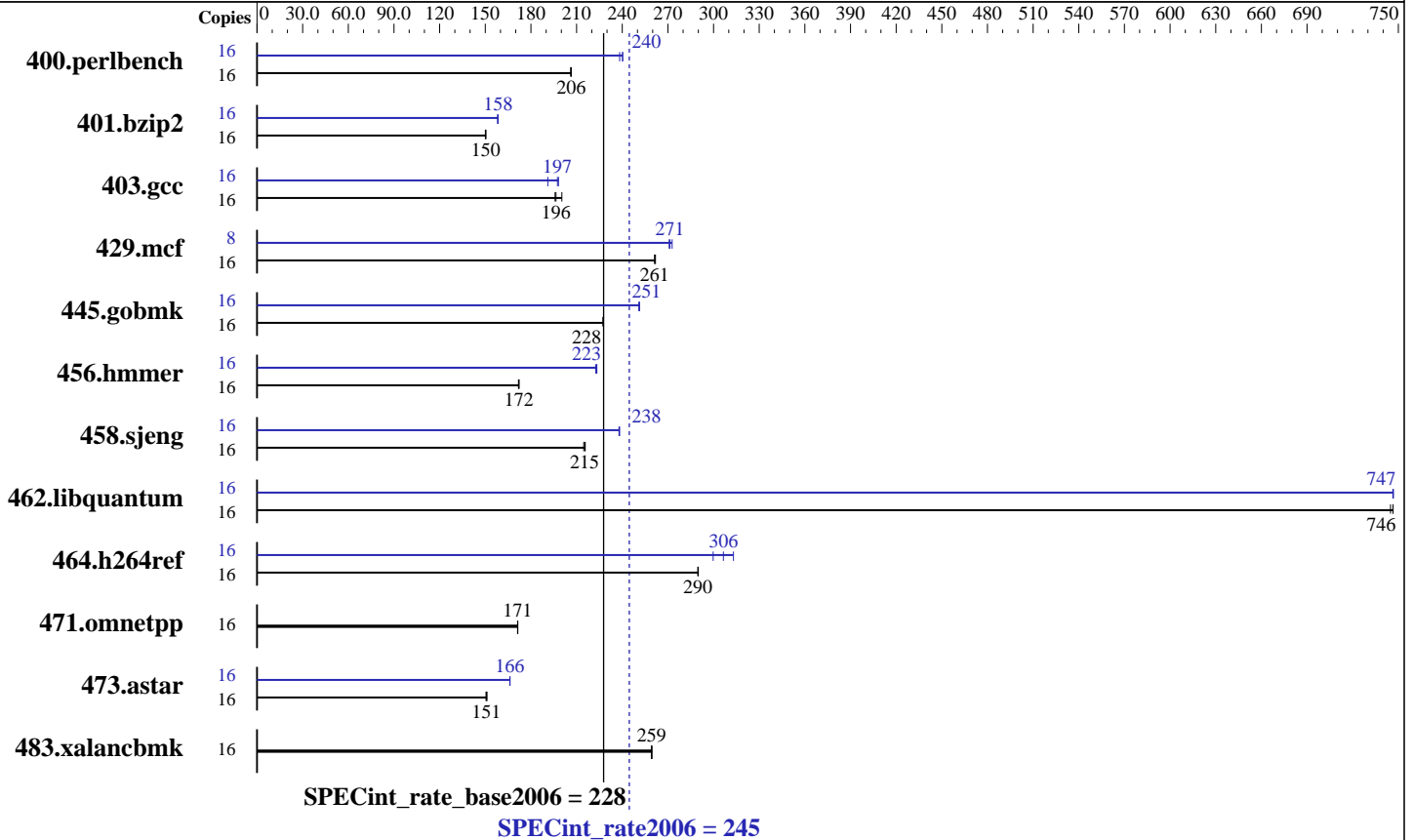
Test date: May-2009

Test sponsor: Hewlett-Packard Company

Hardware Availability: Mar-2009

Tested by: Hewlett-Packard Company

Software Availability: Feb-2009



Hardware

CPU Name: Intel Xeon X5560
 CPU Characteristics: Intel Turbo Boost Technology up to 3.20 GHz
 CPU MHz: 2800
 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: 48 GB (6x8 GB PC3-10600R CL9)
 Disk Subsystem: 1x146 GB 10K RPM SAS
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 5.3
 Kernel 2.6.18-128.el5
 Compiler: Intel C++ Compiler 11.0 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	16	758	206	<u>757</u>	<u>206</u>	757	206	16	656	238	<u>651</u>	<u>240</u>	650	240
401.bzip2	16	<u>1027</u>	<u>150</u>	1029	150	1027	150	16	977	158	975	158	<u>975</u>	<u>158</u>
403.gcc	16	658	196	<u>656</u>	<u>196</u>	643	200	16	650	198	<u>652</u>	<u>197</u>	674	191
429.mcf	16	557	262	558	261	<u>558</u>	<u>261</u>	8	267	273	269	271	<u>269</u>	<u>271</u>
445.gobmk	16	738	228	738	227	<u>738</u>	<u>228</u>	16	668	251	<u>668</u>	<u>251</u>	669	251
456.hammer	16	867	172	<u>867</u>	<u>172</u>	869	172	16	<u>669</u>	<u>223</u>	671	223	668	223
458.sjeng	16	<u>899</u>	<u>215</u>	902	215	898	216	16	<u>813</u>	<u>238</u>	814	238	813	238
462.libquantum	16	445	745	444	747	<u>444</u>	<u>746</u>	16	444	746	444	747	<u>444</u>	<u>747</u>
464.h264ref	16	1221	290	<u>1222</u>	<u>290</u>	1222	290	16	1131	313	1181	300	<u>1155</u>	<u>306</u>
471.omnetpp	16	<u>584</u>	<u>171</u>	584	171	584	171	16	<u>584</u>	<u>171</u>	584	171	584	171
473.astar	16	<u>744</u>	<u>151</u>	743	151	746	150	16	676	166	675	166	<u>676</u>	<u>166</u>
483.xalancbmk	16	425	260	426	259	<u>426</u>	<u>259</u>	16	425	260	426	259	<u>426</u>	<u>259</u>

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

Platform Notes

BIOS configuration:
Power Regulator set to Static High Performance Mode
Power Profile set to Maximum Performance
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

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Base Portability Flags (Continued)

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.perlbenc: -DSPEC_CPU_LINUX_IA32

401.bzip2: -DSPEC_CPU_LP64

456.hmmer: -DSPEC_CPU_LP64

458.sjeng: -DSPEC_CPU_LP64

462.libquantum: -DSPEC_CPU_LINUX

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Peak Portability Flags (Continued)

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: -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: -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

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Peak Optimization Flags (Continued)

483.xalanbmk: 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.20090710.html>

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090710.10.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.20090710.xml>

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090710.10.xml>

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

Tested with SPEC CPU2006 v1.1.

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