



SPEC® CINT2006 Result

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Hewlett-Packard Company

SPECint®_rate2006 = 132

ProLiant BL2x220c G5
(3.00 GHz, Intel Xeon E5450)

SPECint_rate_base2006 = 106

CPU2006 license: 3

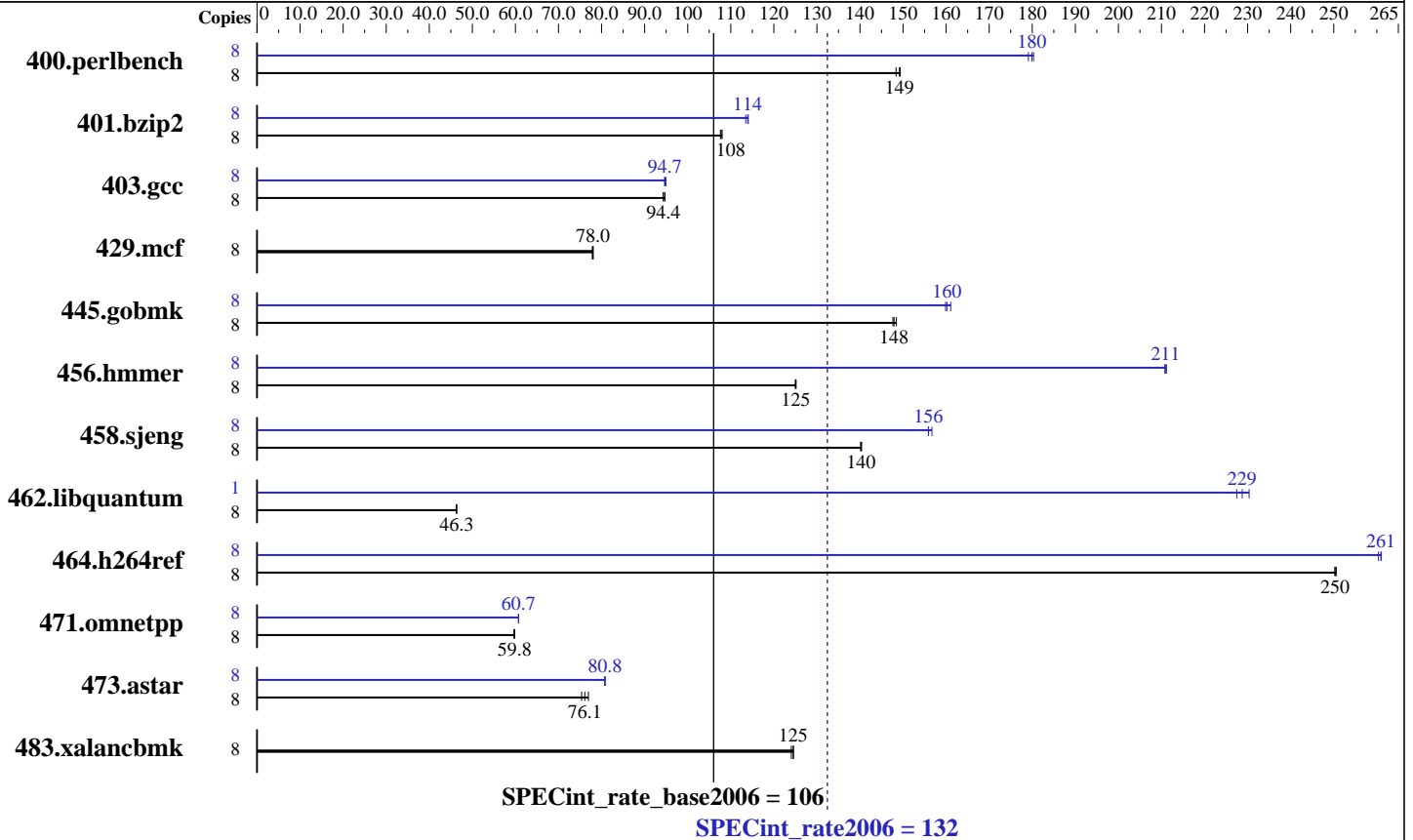
Test date: May-2008

Test sponsor: Hewlett-Packard Company

Hardware Availability: May-2008

Tested by: Hewlett-Packard Company

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon E5450
 CPU Characteristics: 3.0 GHz, 2x6 MB L2 shared, 1333 MHz system bus
 CPU MHz: 3000
 FPU: Integrated
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip
 CPU(s) orderable: 2,3,4 chips
 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: 16 GB (4x4 GB PC2-5300P CL5)
 Disk Subsystem: 1x120 GB 5.4 K RPM 2.5" SFF 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 20070913 Package ID: l_cc_p_10.1.008
 Auto Parallel: Yes
 File System: ext2
 System State: Run level 3 (multi-user)
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: MicroQuill SmartHeap Library 8.1 binutils-2.17.50



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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	527	148	<u>524</u>	<u>149</u>	523	149	8	433	180	<u>434</u>	<u>180</u>	436	179
401.bzip2	8	<u>716</u>	<u>108</u>	715	108	717	108	8	680	113	677	114	<u>678</u>	<u>114</u>
403.gcc	8	680	94.7	<u>682</u>	<u>94.4</u>	683	94.3	8	678	94.9	<u>680</u>	<u>94.7</u>	681	94.6
429.mcf	8	<u>935</u>	<u>78.0</u>	935	78.0	937	77.8	8	<u>935</u>	<u>78.0</u>	935	78.0	937	77.8
445.gobmk	8	<u>567</u>	<u>148</u>	568	148	565	148	8	525	160	521	161	<u>524</u>	<u>160</u>
456.hammer	8	<u>597</u>	<u>125</u>	597	125	596	125	8	353	211	<u>354</u>	<u>211</u>	354	211
458.sjeng	8	690	140	691	140	<u>690</u>	<u>140</u>	8	618	157	<u>621</u>	<u>156</u>	621	156
462.libquantum	8	3581	46.3	3576	46.3	<u>3577</u>	<u>46.3</u>	1	89.9	230	91.1	227	<u>90.6</u>	<u>229</u>
464.h264ref	8	707	251	<u>707</u>	<u>250</u>	707	250	8	<u>678</u>	<u>261</u>	678	261	680	260
471.omnetpp	8	838	59.7	836	59.8	<u>836</u>	<u>59.8</u>	8	824	60.7	<u>823</u>	<u>60.7</u>	823	60.7
473.astar	8	745	75.4	730	77.0	<u>738</u>	<u>76.1</u>	8	695	80.8	696	80.7	<u>695</u>	<u>80.8</u>
483.xalancbmk	8	<u>443</u>	<u>125</u>	445	124	443	125	8	<u>443</u>	<u>125</u>	445	124	443	125

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
KMP_STACKSIZE set to 64M
```

Platform Notes

BIOS configuration:
Power Regulator set to Static High Performance Mode
Adjacent Sector Prefetch Disabled

General Notes

The ProLiant BL2x220c G5 is comprised of two independent server nodes in a single chassis. Only one of the server nodes was used for this benchmark; the other server node was idle during the benchmark. The active server node contained all of the CPUs and memory described in this disclosure.

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc



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Base Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-fast -inline-calloc -opt-malloc-options=3

C++ benchmarks:
-xT -ipo -O3 -no-prec-div -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/cce/10.1.008/bin/icc
-L/opt/intel/cce/10.1.008/lib
-I/opt/intel/cce/10.1.008/include

456.hmmmer: /opt/intel/cce/10.1.008/bin/icc
-L/opt/intel/cce/10.1.008/lib
-I/opt/intel/cce/10.1.008/include

C++ benchmarks:
icpc

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
456.hmmmer: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX

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Peak Portability Flags (Continued)

483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -fast -ansi-alias
-prefetch

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch

403.gcc: -fast -inline-calloc -opt-malloc-options=3

429.mcf: basepeak = yes

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

456.hmmer: -fast -unroll2 -ansi-alias -opt-multi-version-aggressive

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4

462.libquantum: -fast -unroll4 -Ob0 -prefetch
-opt-streaming-stores always -vec-guard-write
-opt-malloc-options=3 -parallel -par-runtime-control

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-ansi-alias

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo
-no-prec-div -ansi-alias -opt-ra-region-strategy=block
-Wl,-z,muldefs -L/cpu2006/SmartHeap_8.1/lib -lsmartheap

473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo
-no-prec-div -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:

Continued on next page



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Peak Other Flags (Continued)

403.gcc: -Dalloca=_alloca

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/HP-Intel-ic10.1-linux-int-flags.20090714.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/HP-Intel-ic10.1-linux-int-flags.20090714.xml>

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

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