



SPEC® CINT2006 Result

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Bull SAS

SPECint®_rate2006 = 83.9

NovaScale R410 F2 (Intel Xeon L3426, 1.86 GHz)

SPECint_rate_base2006 = 77.1

CPU2006 license: 20

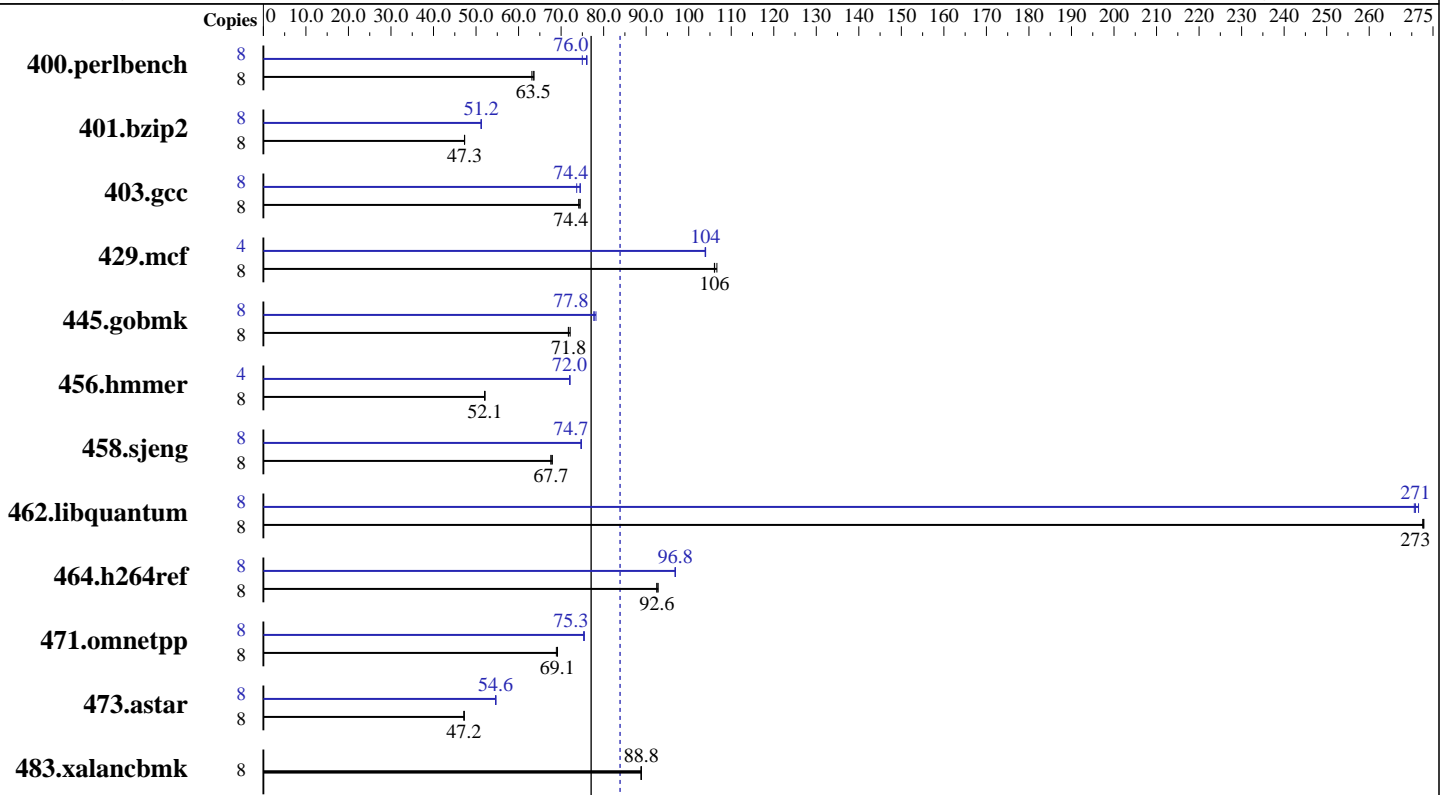
Test sponsor: Bull SAS

Tested by: Dell Inc.

Test date: Sep-2009

Hardware Availability: Dec-2009

Software Availability: Jul-2009



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Hardware

CPU Name: Intel Xeon L3426
 CPU Characteristics: Intel Turbo Boost Technology up to 3.20 GHz
 CPU MHz: 1867
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip, 2 threads/core
 CPU(s) orderable: 1 chip
 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: 8 GB (4 x 2 GB DDR3-1333 DR UDIMM)
 Disk Subsystem: 1 x 160 GB 7200 RPM 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 Professional Edition 11.1 for Linux Build 20090511 Package ID: I_cproc_p_11.1.040
 Auto Parallel: No
 File System: ReiserFS
 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	1238	63.1	<u>1232</u>	<u>63.5</u>	1228	63.6	8	<u>1029</u>	<u>76.0</u>	1027	76.1	1042	75.0
401.bzip2	8	1633	47.3	<u>1632</u>	<u>47.3</u>	1631	47.3	8	1507	51.2	<u>1507</u>	<u>51.2</u>	1507	51.2
403.gcc	8	<u>865</u>	<u>74.4</u>	869	74.1	865	74.5	8	<u>865</u>	<u>74.4</u>	864	74.5	874	73.7
429.mcf	8	684	107	<u>688</u>	<u>106</u>	688	106	4	351	104	<u>351</u>	<u>104</u>	351	104
445.gobmk	8	1163	72.1	<u>1169</u>	<u>71.8</u>	1170	71.7	8	1080	77.7	1073	78.2	<u>1079</u>	<u>77.8</u>
456.hammer	8	1435	52.0	<u>1433</u>	<u>52.1</u>	1433	52.1	4	<u>518</u>	<u>72.0</u>	518	72.0	518	72.1
458.sjeng	8	1425	67.9	<u>1431</u>	<u>67.7</u>	1432	67.6	8	1296	74.7	1294	74.8	<u>1295</u>	<u>74.7</u>
462.libquantum	8	<u>608</u>	<u>273</u>	608	273	607	273	8	<u>612</u>	<u>271</u>	610	272	613	271
464.h264ref	8	1914	92.5	1907	92.8	<u>1912</u>	<u>92.6</u>	8	<u>1828</u>	<u>96.8</u>	1828	96.9	1828	96.8
471.omnetpp	8	726	68.9	723	69.2	<u>723</u>	<u>69.1</u>	8	664	75.3	663	75.5	<u>664</u>	<u>75.3</u>
473.astar	8	1191	47.2	1189	47.2	<u>1190</u>	<u>47.2</u>	8	<u>1028</u>	<u>54.6</u>	1027	54.7	1029	54.6
483.xalancbmk	8	621	88.9	622	88.8	<u>621</u>	<u>88.8</u>	8	621	88.9	622	88.8	<u>621</u>	<u>88.8</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

Operating System Notes

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

Platform Notes

BIOS Settings:
Power Management = Maximum Performance (Default = Active Power Controller)

General Notes

The Dell PowerEdge R210 (Intel Xeon L3426, 1.86 GHz) and the Bull NovaScale R410 F2 (Intel Xeon L3426, 1.86 GHz) models are electronically equivalent. The results have been measured on a Dell PowerEdge R210 (Intel Xeon L3426, 1.86 GHz) model.

Base Compiler Invocation

C benchmarks:
icc -m32

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Base Compiler Invocation (Continued)

C++ benchmarks:
icpc -m32

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-alloc
-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 -m32

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

C++ benchmarks (except as noted below):
icpc -m32

473.astar: icpc -m64



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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
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 -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: -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=block -Wl,-z,muldefs

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Peak Optimization Flags (Continued)

471.omnetpp (continued):

`-L/spec/cpu2006.1.1/lib -lsmartheap`

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`

483.xalancbmk: `basepeak = yes`

Peak Other Flags

C benchmarks:

403.gcc: `-Dalloca=_alloca`

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-int-linux64-revA.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-int-linux64-revA.xml>

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

Tested with SPEC CPU2006 v1.1.

Report generated on Wed Jul 23 03:46:00 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 22 December 2009.