



SPEC® CINT2006 Result

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Bull SAS

SPECint®_rate2006 = 114

NovaScale R410 F2 (Intel Xeon X3460, 2.80 GHz)

SPECint_rate_base2006 = 105

CPU2006 license: 20

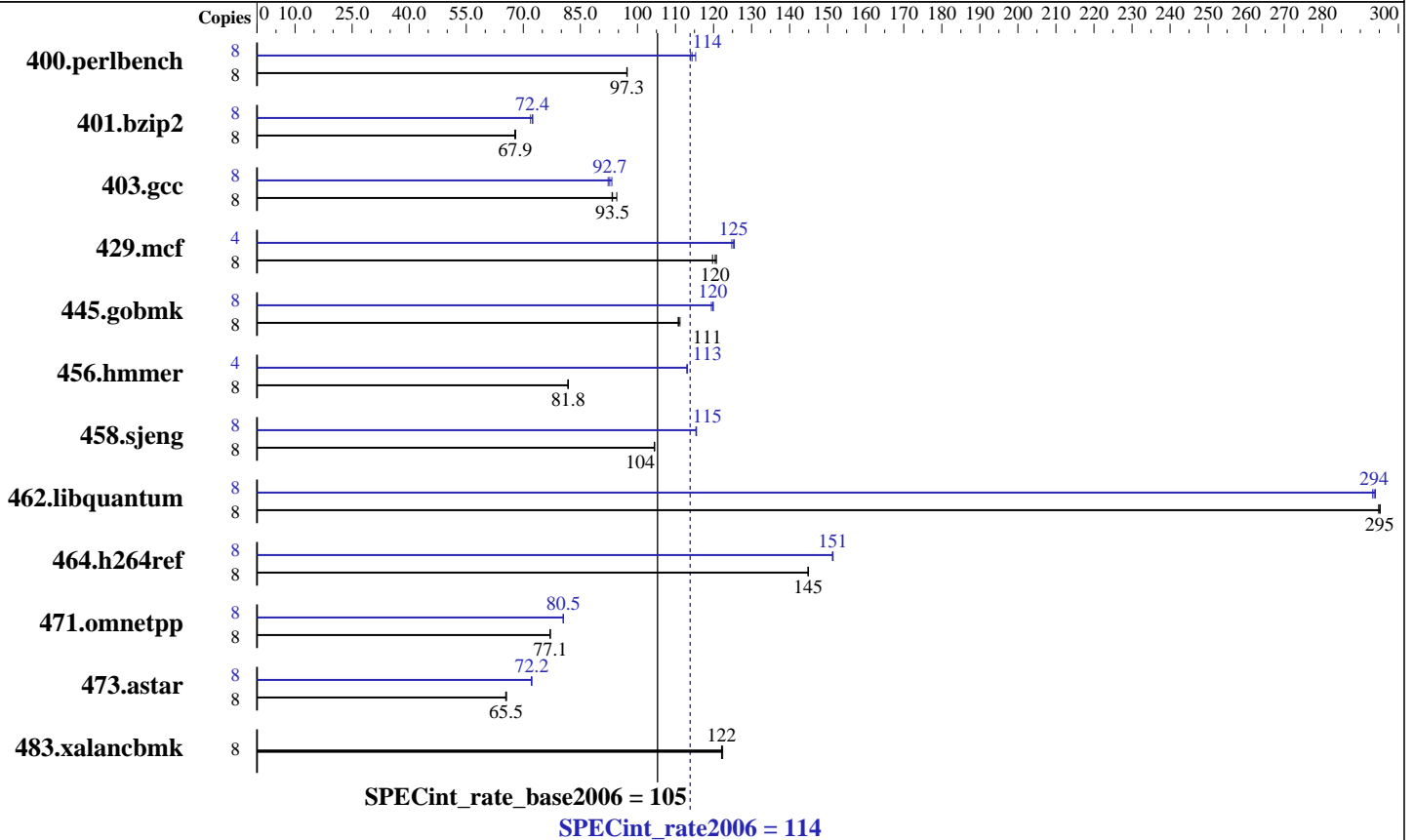
Test sponsor: Bull SAS

Tested by: Dell Inc.

Test date: Sep-2009

Hardware Availability: Dec-2009

Software Availability: Jul-2009



Hardware

CPU Name: Intel Xeon X3460
 CPU Characteristics: Intel Turbo Boost Technology up to 3.46 GHz
 CPU MHz: 2800
 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	803	<u>97.3</u>	804	97.2	803	97.3	8	686	114	683	<u>114</u>	678	115
401.bzip2	8	1136	68.0	1138	<u>67.9</u>	1139	67.8	8	1066	<u>72.4</u>	1074	71.9	1065	72.5
403.gcc	8	689	<u>93.5</u>	690	93.3	681	94.6	8	695	<u>92.7</u>	690	93.3	698	92.3
429.mcf	8	604	121	606	<u>120</u>	609	120	4	292	125	291	<u>125</u>	291	125
445.gobmk	8	755	111	758	111	757	<u>111</u>	8	703	119	700	<u>120</u>	700	120
456.hammer	8	914	81.7	912	<u>81.8</u>	912	81.8	4	330	113	330	113	330	<u>113</u>
458.sjeng	8	927	<u>104</u>	927	104	926	105	8	839	115	838	116	839	<u>115</u>
462.libquantum	8	561	295	562	<u>295</u>	562	295	8	564	294	565	<u>294</u>	565	293
464.h264ref	8	1222	145	1221	145	1222	<u>145</u>	8	1171	151	1169	151	1170	<u>151</u>
471.omnetpp	8	649	77.0	649	<u>77.1</u>	649	77.1	8	621	80.5	621	<u>80.5</u>	621	80.5
473.astar	8	857	<u>65.5</u>	857	65.6	859	65.4	8	779	72.1	778	<u>72.2</u>	778	72.2
483.xalancbmk	8	452	122	452	<u>122</u>	451	122	8	452	122	452	<u>122</u>	451	122

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 X3460, 2.80 GHz) and the Bull NovaScale R410 F2 (Intel Xeon X3460, 2.80 GHz) models are electronically equivalent. The results have been measured on a Dell PowerEdge R210 (Intel Xeon X3460, 2.80 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.

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