



SPEC[®] CINT2006 Result

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Bull SAS

NovaScale R440 E1
(Intel Xeon E5420,2.50GHz)

SPECint[®]_rate2006 = 116

SPECint_rate_base2006 = 94.7

CPU2006 license: 20

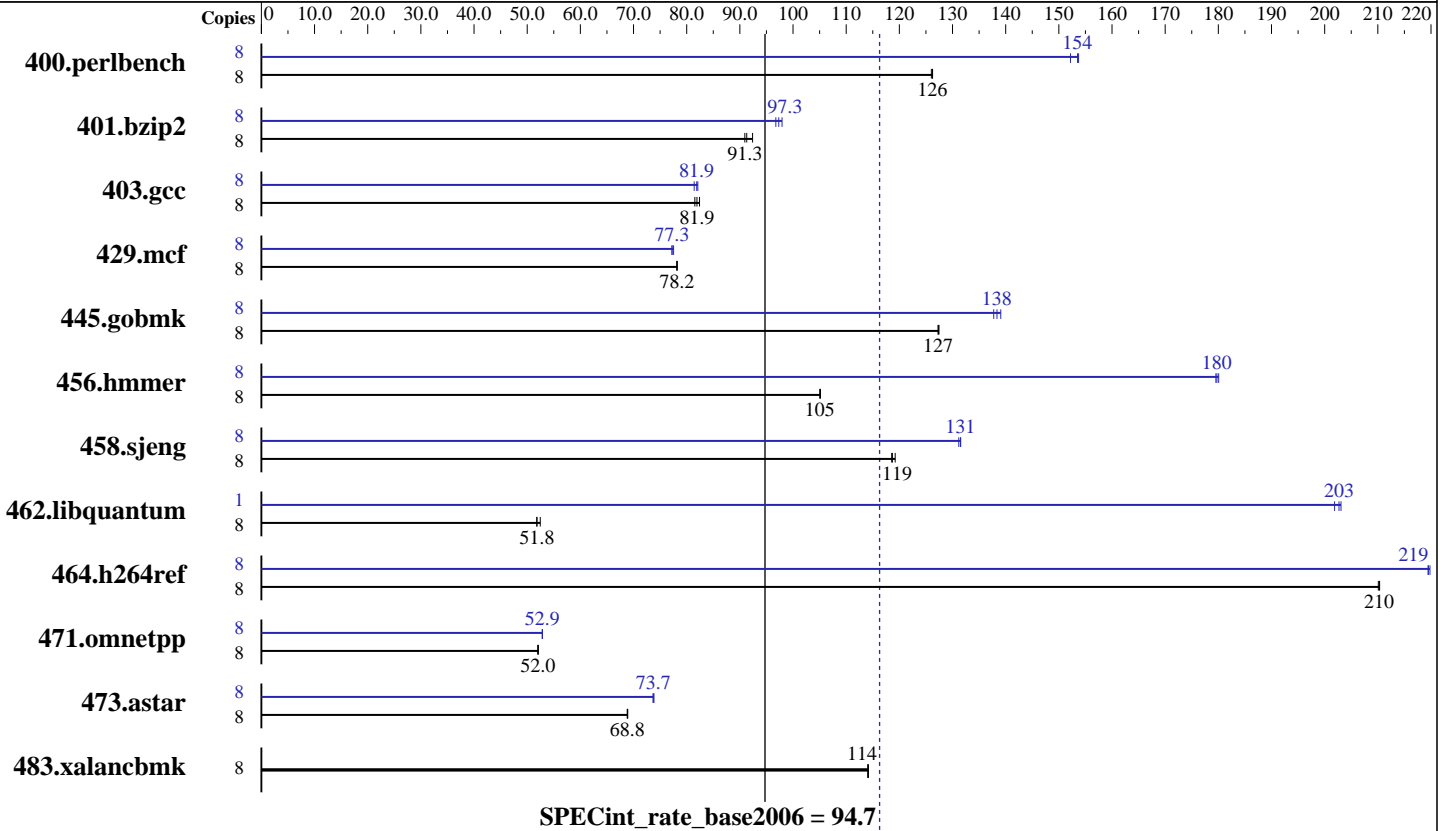
Test sponsor: Bull SAS

Tested by: NEC Corporation

Test date: Jan-2008

Hardware Availability: Dec-2007

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon E5420
 CPU Characteristics: 2.50 GHz, 2x6 MB L2 shared, 1333 MHz bus
 CPU MHz: 2500
 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: 12 MB I+D on chip per chip, 6 MB shared / 2 cores
 L3 Cache: None
 Other Cache: None
 Memory: 12 GB (12x1 GB PC2-5300F, 2 rank, CL5-5-5, ECC)
 Disk Subsystem: 1x73.2 GB SAS, 15000RPM
 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 for Linux32 and Linux64 version 10.1 Build 20070913 Package ID: l_cc_p_10.1.008
 Auto Parallel: Yes
 File System: ext2
 System State: Multiuser, Runlevel 3
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: MicroQuill SmartHeap library 8.1 binutils-2.17.tar.gz, Version 2.17



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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	620	126	<u>619</u>	<u>126</u>	619	126	8	514	152	508	154	<u>509</u>	<u>154</u>
401.bzip2	8	849	90.9	<u>846</u>	<u>91.3</u>	836	92.4	8	798	96.8	<u>793</u>	<u>97.3</u>	788	97.9
403.gcc	8	781	82.4	<u>786</u>	<u>81.9</u>	790	81.5	8	784	82.1	791	81.4	<u>786</u>	<u>81.9</u>
429.mcf	8	933	78.2	934	78.1	<u>933</u>	<u>78.2</u>	8	941	77.5	<u>944</u>	<u>77.3</u>	945	77.2
445.gobmk	8	659	127	658	127	<u>659</u>	<u>127</u>	8	<u>607</u>	<u>138</u>	609	138	603	139
456.hmmer	8	710	105	710	105	<u>710</u>	<u>105</u>	8	415	180	416	180	<u>415</u>	<u>180</u>
458.sjeng	8	<u>816</u>	<u>119</u>	812	119	816	119	8	738	131	<u>736</u>	<u>131</u>	736	132
462.libquantum	8	3160	52.5	3200	51.8	<u>3198</u>	<u>51.8</u>	1	102	203	<u>102</u>	<u>203</u>	103	202
464.h264ref	8	842	210	843	210	<u>842</u>	<u>210</u>	8	805	220	<u>807</u>	<u>219</u>	807	219
471.omnetpp	8	960	52.1	961	52.0	<u>961</u>	<u>52.0</u>	8	946	52.9	946	52.9	<u>946</u>	<u>52.9</u>
473.astar	8	816	68.8	<u>816</u>	<u>68.8</u>	815	68.9	8	762	73.7	<u>762</u>	<u>73.7</u>	761	73.8
483.xalancbmk	8	483	114	<u>484</u>	<u>114</u>	484	114	8	483	114	<u>484</u>	<u>114</u>	484	114

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
'/usr/bin/taskset' used to bind processes to CPUs
OMP_NUM_THREADS set to number of cores (default).

Platform Notes

Bios settings:
Intel SpeedStep Technology: Disabled

General Notes

All benchmarks compiled in 32-bit mode except 401.bzip2, 456.hmmer, for peak, are compiled in 64-bit mode

The NEC Express5800/120Rh-1(Intel Xeon Processor E5420), the NEC Express5800/120Rj-2(Intel Xeon Processor E5420), the Bull NovaScale R440 E1 (Intel Xeon E5420,2.50GHz) and the Bull NovaScale R460 E1 (Intel Xeon E5420,2.50GHz) models are electronically equivalent. The results have been measured on a NEC Express5800/120Rj-2(Intel Xeon Processor E5420) model.

Base Compiler Invocation

C benchmarks:
icc

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Base Compiler Invocation (Continued)

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:
-fast -inline-calloc -opt-malloc-options=3
C++ benchmarks:
-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs
-L/opt/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.hmmer: /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



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Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX
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: -fast -prefetch
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/opt/SmartHeap_8.1/lib -lsmarheap
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/opt/SmartHeap_8.1/lib -lsmarheap
483.xalancbmk: basepeak = yes



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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/NEC-Intel-ic10.1-FP-intel64-linux-flags.20090713.01.html>

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

<http://www.spec.org/cpu2006/flags/NEC-Intel-ic10.1-FP-intel64-linux-flags.20090713.01.xml>

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

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