



SPEC® CINT2006 Result

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Bull SAS

NovaScale R440
(Intel Xeon processor E5310,1.60GHz)

SPECint®_rate2006 = 63.4

SPECint_rate_base2006 = 59.7

CPU2006 license: 20

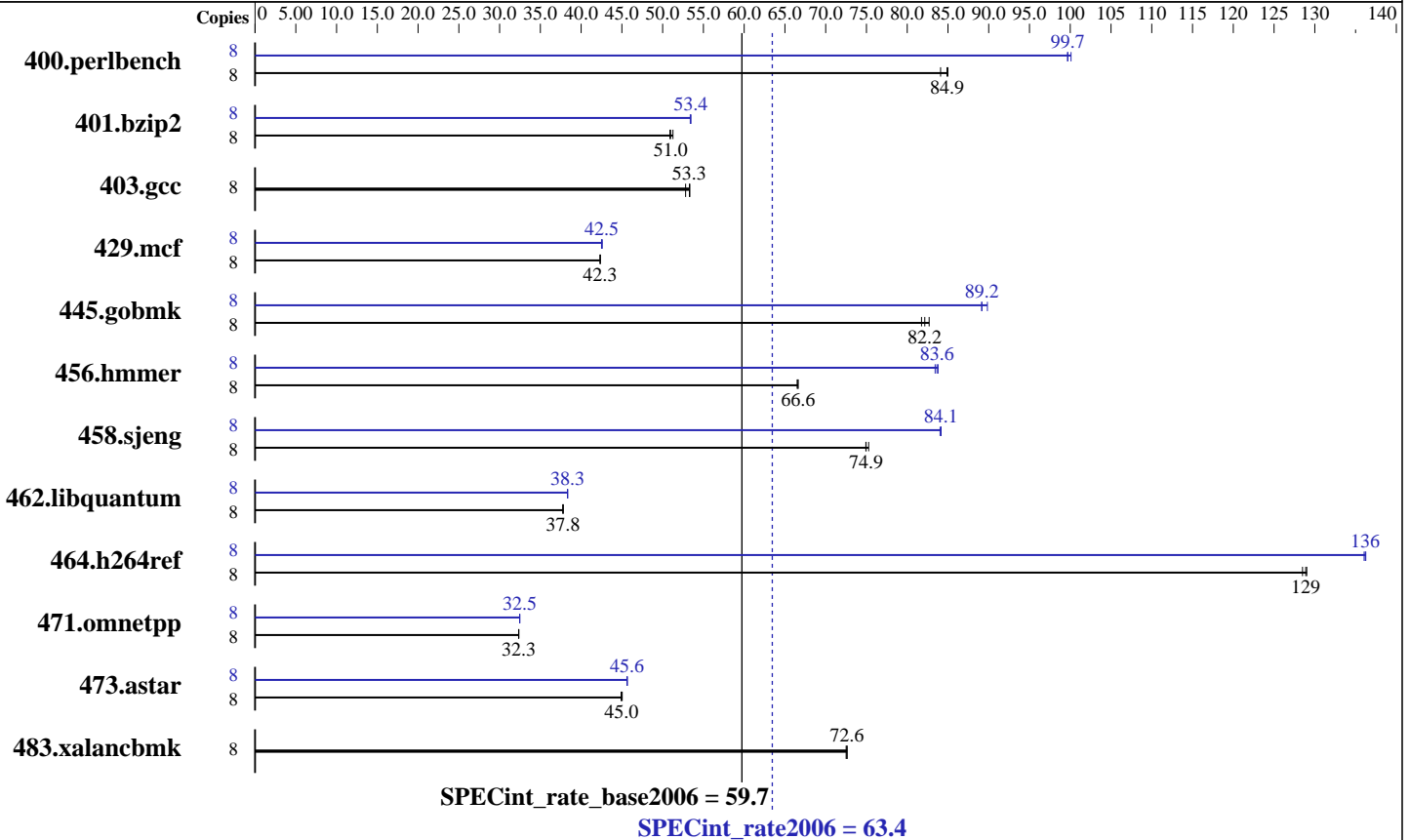
Test sponsor: Bull SAS

Tested by: Bull SAS

Test date: Jul-2007

Hardware Availability: Mar-2007

Software Availability: May-2007



Hardware

CPU Name: Intel Xeon E5310
 CPU Characteristics: 1.60 GHz, 8 MB L2, 1066 MHz system bus
 CPU MHz: 1600
 FPU: Integrated
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip
 CPU(s) orderable: 1 to 2 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 8 MB I+D on chip per chip, 4 MB shared / 2 cores
 L3 Cache: None
 Other Cache: None
 Memory: 12 GB (12x1 GB) FB-DIMM PC2-4200F ECC CL4
 Disk Subsystem: 1x73 GB SAS, 15000 RPM
 Other Hardware: None

Software

Operating System: SUSE LINUX Enterprise Server 10
 Kernel 2.6.16.21-0.8-smp for x86_64
 Compiler: Intel C++ Compiler for Linux32 and Linux64 version 10.0
 Build 20070426 Package ID: l_cc_p_10.0.023
 Auto Parallel: No
 File System: ext2
 System State: Multi-user run level 3
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: SmartHeap library V8.1
 Binutils 2.17.50.0.15



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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	920	85.0	929	84.1	<u>921</u>	<u>84.9</u>	8	<u>784</u>	<u>99.7</u>	781	100	784	99.7
401.bzip2	8	1517	50.9	<u>1514</u>	<u>51.0</u>	1506	51.3	8	1444	53.5	1446	53.4	<u>1444</u>	<u>53.4</u>
403.gcc	8	1207	53.3	<u>1209</u>	<u>53.3</u>	1219	52.8	8	1207	53.3	<u>1209</u>	<u>53.3</u>	1219	52.8
429.mcf	8	1724	42.3	1723	42.3	<u>1723</u>	<u>42.3</u>	8	1713	42.6	1717	42.5	<u>1715</u>	<u>42.5</u>
445.gobmk	8	1015	82.7	<u>1021</u>	<u>82.2</u>	1026	81.8	8	942	89.1	934	89.8	<u>941</u>	<u>89.2</u>
456.hmmer	8	1122	66.5	1121	66.6	<u>1121</u>	<u>66.6</u>	8	<u>892</u>	<u>83.6</u>	891	83.8	895	83.4
458.sjeng	8	1292	74.9	<u>1292</u>	<u>74.9</u>	1286	75.3	8	<u>1150</u>	<u>84.1</u>	1150	84.2	1152	84.0
462.libquantum	8	4390	37.8	4385	37.8	<u>4386</u>	<u>37.8</u>	8	<u>4324</u>	<u>38.3</u>	4325	38.3	4323	38.3
464.h264ref	8	1372	129	1378	128	<u>1374</u>	<u>129</u>	8	1299	136	1301	136	<u>1300</u>	<u>136</u>
471.omnetpp	8	1545	32.4	1547	32.3	<u>1546</u>	<u>32.3</u>	8	1540	32.5	<u>1540</u>	<u>32.5</u>	1540	32.5
473.astar	8	1251	44.9	1247	45.0	<u>1249</u>	<u>45.0</u>	8	1230	45.7	1231	45.6	<u>1230</u>	<u>45.6</u>
483.xalancbmk	8	761	72.5	760	72.6	<u>760</u>	<u>72.6</u>	8	761	72.5	760	72.6	<u>760</u>	<u>72.6</u>

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

General Notes

The NovaScale R440 and the NovaScale R460 models are electronically equivalent.
The results have been measured on a NovaScale R460 model.

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

C++ benchmarks:
-xT -ipo -O3 -no-prec-div -ansi-alias
-L/spec/cpu2006/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/10.0.023/bin/icc
-L/opt/intel/cce/10.0.023/lib
-I/opt/intel/cce/10.0.023/include

456.hmmer: /opt/intel/cce/10.0.023/bin/icc
-L/opt/intel/cce/10.0.023/lib
-I/opt/intel/cce/10.0.023/include

C++ benchmarks:
icpc

Peak Portability Flags

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

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Peak Portability Flags (Continued)

483.xalanbmk: -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

403.gcc: basepeak = yes

429.mcf: -fast -prefetch

445.gobmk: -prof_gen(pass 1) -prof_use(pass 2) -xT -O2 -ipo
-no-prec_div -ansi-alias

456.hmmer: -prof_gen(pass 1) -prof_use(pass 2) -fast -unroll2
-ansi-alias

458.sjeng: -prof_gen(pass 1) -prof_use(pass 2) -fast -unroll4

462.libquantum: -prof_gen(pass 1) -prof_use(pass 2) -fast -unroll4 -Ob0
-prefetch -opt-streaming-stores always

464.h264ref: Same as 456.hmmer

C++ benchmarks:

471.omnetpp: -prof_gen(pass 1) -prof_use(pass 2) -xT -O3 -ipo
-no-prec_div -ansi-alias -L/spec/cpu2006/lib -lsmartheap

473.astar: Same as 471.omnetpp

483.xalanbmk: basepeak = yes

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca



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The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/EM64T_Intel100_flags.20090714.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/EM64T_Intel100_flags.20090714.xml

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