



SPEC® CINT2006 Result

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Bull SAS

NovaScale B260+
(Intel Xeon E5440, 2.83 GHz)

SPECint®2006 = 25.7

SPECint_base2006 = 22.5

CPU2006 license: 20

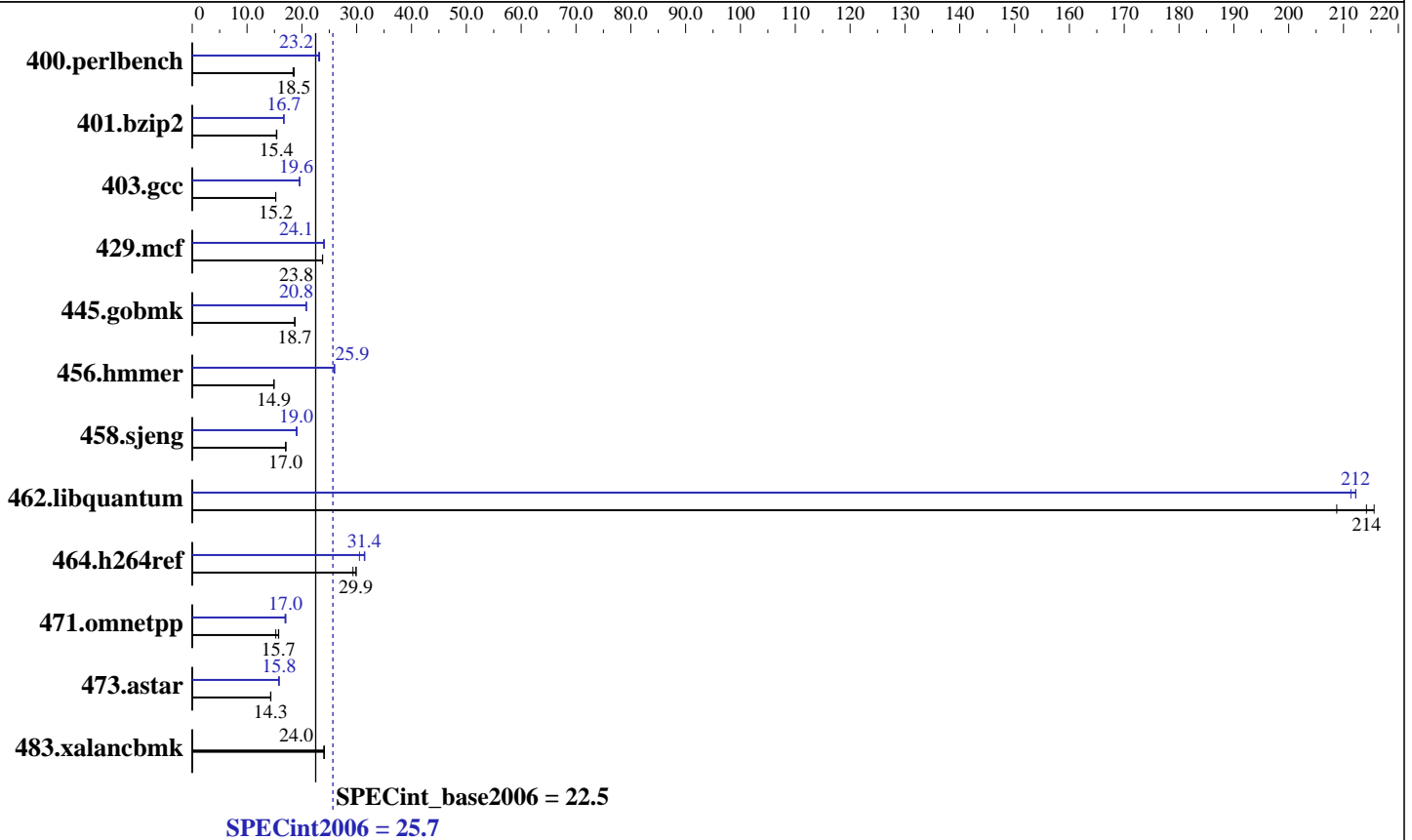
Test sponsor: Bull SAS

Tested by: Bull SAS

Test date: Jul-2008

Hardware Availability: Jan-2008

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon E5440
 CPU Characteristics: 1333 MHz system bus
 CPU MHz: 2833
 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: 16 GB (8x2 GB) FB-DIMM PC2-5300F ECC CL5
 Disk Subsystem: 1x73 GB SAS, 10000 RPM
 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: Binutils 2.17.50.0.15 SmartHeap library V8.1



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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	526	18.6	<u>527</u>	<u>18.5</u>	531	18.4	<u>421</u>	<u>23.2</u>	424	23.0	420	23.2
401.bzip2	625	15.4	629	15.3	<u>627</u>	<u>15.4</u>	578	16.7	577	16.7	<u>577</u>	<u>16.7</u>
403.gcc	529	15.2	<u>529</u>	<u>15.2</u>	528	15.2	411	19.6	<u>411</u>	<u>19.6</u>	411	19.6
429.mcf	<u>384</u>	<u>23.8</u>	384	23.8	384	23.8	<u>379</u>	<u>24.1</u>	380	24.0	379	24.1
445.gobmk	561	18.7	<u>561</u>	<u>18.7</u>	560	18.7	504	20.8	<u>504</u>	<u>20.8</u>	504	20.8
456.hmmmer	627	14.9	<u>626</u>	<u>14.9</u>	626	14.9	359	26.0	360	25.9	<u>360</u>	<u>25.9</u>
458.sjeng	707	17.1	712	17.0	<u>710</u>	<u>17.0</u>	637	19.0	<u>635</u>	<u>19.0</u>	634	19.1
462.libquantum	<u>96.7</u>	<u>214</u>	99.3	209	96.1	216	98.0	211	97.6	212	<u>97.6</u>	<u>212</u>
464.h264ref	740	29.9	<u>741</u>	<u>29.9</u>	755	29.3	703	31.5	726	30.5	<u>705</u>	<u>31.4</u>
471.omnetpp	<u>397</u>	<u>15.7</u>	410	15.2	396	15.8	366	17.1	369	16.9	<u>367</u>	<u>17.0</u>
473.astar	<u>490</u>	<u>14.3</u>	489	14.3	491	14.3	<u>443</u>	<u>15.8</u>	444	15.8	443	15.8
483.xalancbmk	<u>287</u>	<u>24.0</u>	287	24.0	286	24.1	<u>287</u>	<u>24.0</u>	287	24.0	286	24.1

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 null

General Notes

All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hmmmer, for peak, are compiled in 64-bit mode
BIOS settings :
Hardware Prefetcher : Enabled
Adjacent Cache-Line Prefetch : Enabled

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 -vec-guard-write -parallel -par-runtime-control

C++ benchmarks:
-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs
-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/10.1.008/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.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 -prefetch
-auto-ilp32

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.hmmmer: -fast -unroll2 -ansi-alias -opt-multi-version-aggressive
-auto-ilp32

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/spec/cpu2006/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/spec/cpu2006/lib -lsmartheap

483.xalanbmk: basepeak = yes



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Peak Other Flags

Same as Base Other Flags

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

http://www.spec.org/cpu2006/flags/EM64T_Intel101_int_flags.20090713.00.html

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

http://www.spec.org/cpu2006/flags/EM64T_Intel101_int_flags.20090713.00.xml

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