



SPEC® CINT2006 Result

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Bull SAS

NovaScale B280
(Intel Xeon E5440, 2.83 GHz)

SPECint®2006 = 25.5

SPECint_base2006 = 22.3

CPU2006 license: 20

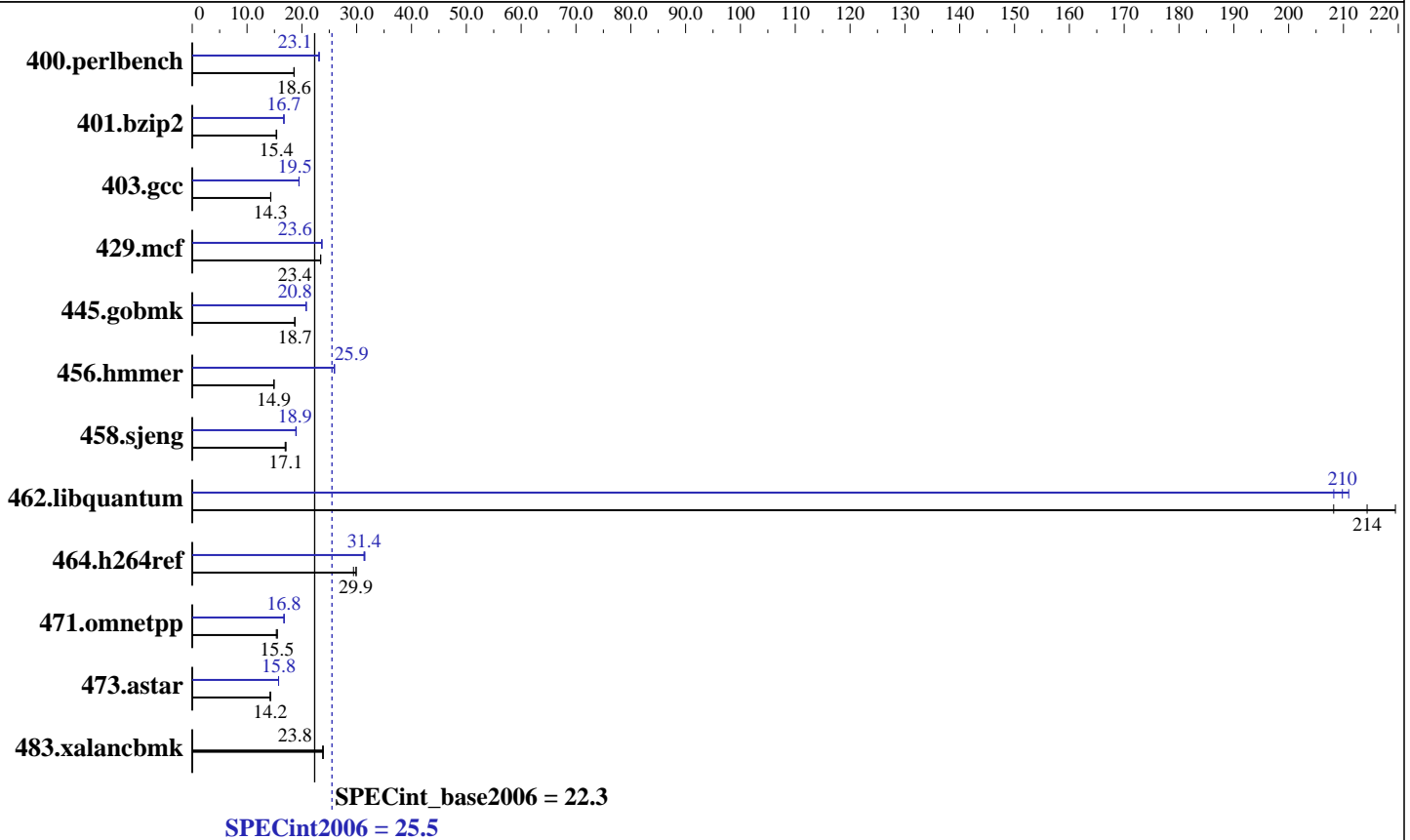
Test sponsor: Bull SAS

Tested by: Bull SAS

Test date: Sep-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, 15000 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>526</u>	<u>18.6</u>	526	18.6	<u>422</u>	<u>23.1</u>	422	23.2	423	23.1
401.bzip2	629	15.3	<u>629</u>	<u>15.4</u>	626	15.4	577	16.7	576	16.7	<u>577</u>	<u>16.7</u>
403.gcc	<u>562</u>	<u>14.3</u>	563	14.3	561	14.3	<u>413</u>	<u>19.5</u>	413	19.5	413	19.5
429.mcf	<u>389</u>	<u>23.4</u>	390	23.4	389	23.4	<u>386</u>	<u>23.6</u>	385	23.7	386	23.6
445.gobmk	560	18.7	<u>560</u>	<u>18.7</u>	560	18.7	<u>505</u>	<u>20.8</u>	505	20.8	505	20.8
456.hmmer	626	14.9	<u>626</u>	<u>14.9</u>	626	14.9	360	25.9	<u>360</u>	<u>25.9</u>	360	25.9
458.sjeng	709	17.1	<u>709</u>	<u>17.1</u>	714	17.0	638	19.0	640	18.9	<u>639</u>	<u>18.9</u>
462.libquantum	94.4	219	<u>96.7</u>	<u>214</u>	99.5	208	<u>98.8</u>	<u>210</u>	99.5	208	98.2	211
464.h264ref	752	29.4	740	29.9	<u>741</u>	<u>29.9</u>	706	31.4	<u>705</u>	<u>31.4</u>	703	31.5
471.omnetpp	403	15.5	407	15.3	<u>403</u>	<u>15.5</u>	373	16.7	<u>373</u>	<u>16.8</u>	373	16.8
473.astar	494	14.2	491	14.3	<u>493</u>	<u>14.2</u>	446	15.7	445	15.8	<u>446</u>	<u>15.8</u>
483.xalancbmk	289	23.9	290	23.8	<u>290</u>	<u>23.8</u>	289	23.9	290	23.8	<u>290</u>	<u>23.8</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
OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to physical,0
KMP_STACKSIZE set to null
```

Platform Notes

BIOS configuration:
Hardware Prefetcher Enabled
Adjacent Cache-Line Prefetch Enabled

General Notes

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

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.hmmcr: -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 -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/spec/cpu2006/lib -lsmarheap

483.xalanbmk: 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/EM64T_Intel101_int_flags.20090713.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.xml

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

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