



SPEC® CINT2006 Result

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Bull SAS

SPECint®2006 = 26.2

NovaScale T820 F2 (Intel Xeon X3430, 2.40 GHz)

SPECint_base2006 = 23.2

CPU2006 license: 20

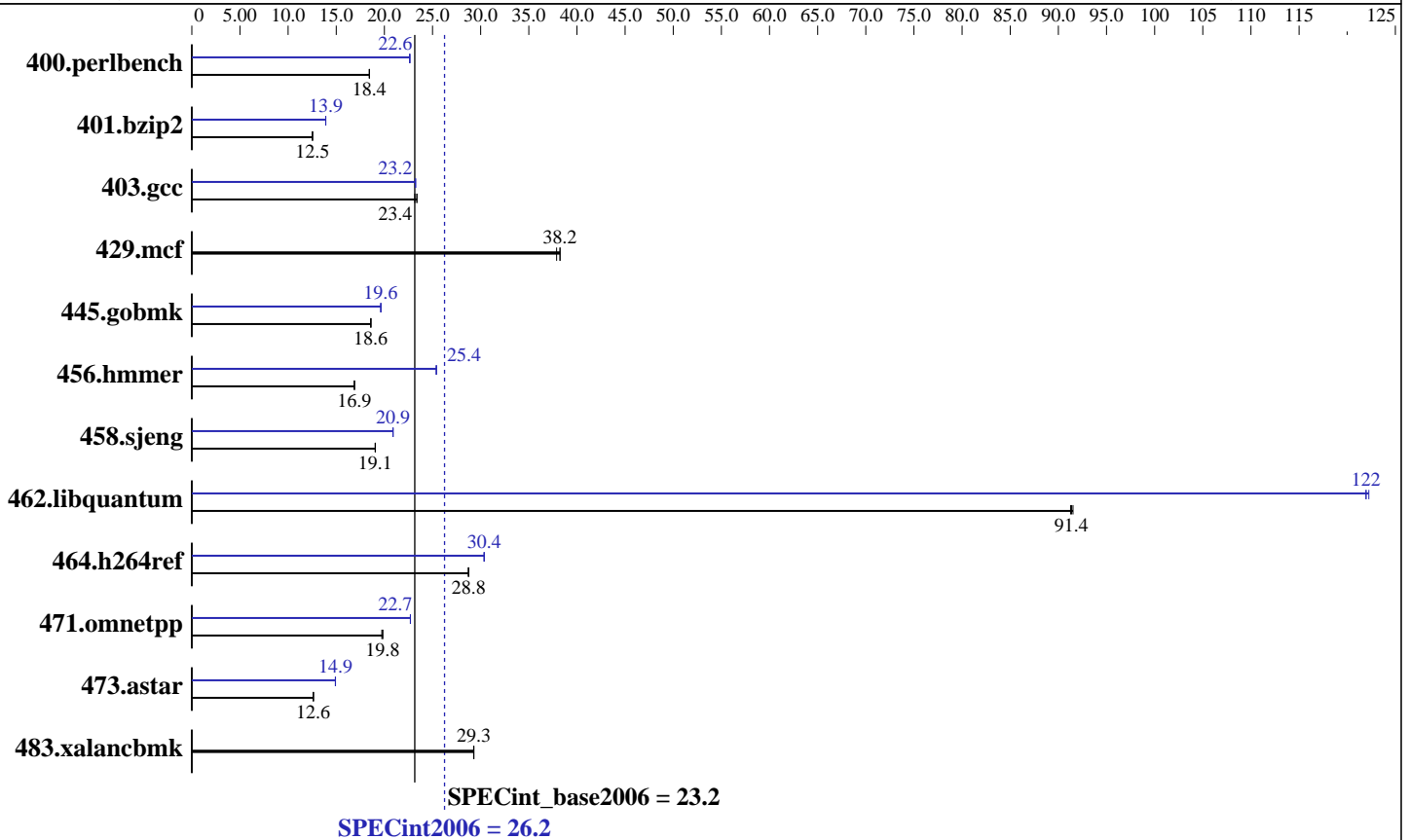
Test date: Oct-2009

Test sponsor: Bull SAS

Hardware Availability: Dec-2009

Tested by: Dell Inc.

Software Availability: Jul-2009



Hardware

CPU Name: Intel Xeon X3430
 CPU Characteristics: Intel Turbo Boost Technology up to 2.80 GHz
 CPU MHz: 2400
 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 RDIMM)
 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: l_cproc_p_11.1.040
 Auto Parallel: Yes
 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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	529	18.5	530	18.4	<u>530</u>	<u>18.4</u>	<u>432</u>	<u>22.6</u>	432	22.6	431	22.7
401.bzip2	771	12.5	769	12.5	<u>770</u>	<u>12.5</u>	694	13.9	694	13.9	<u>694</u>	<u>13.9</u>
403.gcc	348	23.2	344	23.4	<u>345</u>	<u>23.4</u>	<u>347</u>	<u>23.2</u>	346	23.2	347	23.2
429.mcf	241	37.9	238	38.2	<u>239</u>	<u>38.2</u>	241	37.9	238	38.2	<u>239</u>	<u>38.2</u>
445.gobmk	564	18.6	<u>564</u>	<u>18.6</u>	564	18.6	534	19.6	<u>534</u>	<u>19.6</u>	535	19.6
456.hammer	552	16.9	553	16.9	<u>553</u>	<u>16.9</u>	<u>367</u>	<u>25.4</u>	367	25.4	367	25.4
458.sjeng	<u>635</u>	<u>19.1</u>	635	19.1	636	19.0	<u>579</u>	<u>20.9</u>	579	20.9	579	20.9
462.libquantum	<u>227</u>	<u>91.4</u>	226	91.5	227	91.3	169	122	170	122	<u>170</u>	<u>122</u>
464.h264ref	771	28.7	<u>770</u>	<u>28.8</u>	770	28.8	<u>729</u>	<u>30.4</u>	729	30.4	729	30.4
471.omnetpp	315	19.8	<u>315</u>	<u>19.8</u>	317	19.7	<u>275</u>	<u>22.7</u>	<u>275</u>	<u>22.7</u>	275	22.7
473.astar	555	12.6	557	12.6	<u>557</u>	<u>12.6</u>	<u>471</u>	<u>14.9</u>	471	14.9	471	14.9
483.xalancbmk	236	29.3	<u>236</u>	<u>29.3</u>	236	29.3	<u>236</u>	<u>29.3</u>	<u>236</u>	<u>29.3</u>	236	29.3

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.

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

OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to granularity=fine,scatter
The Dell PowerEdge T310 (Intel Xeon X3430, 2.40 GHz) and
the Bull NovaScale T820 F2 (Intel Xeon X3430, 2.40 GHz) models are electronically equivalent.
The results have been measured on a Dell PowerEdge T310 (Intel Xeon X3430, 2.40 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 -opt-prefetch -inline-calloc
-opt-malloc-options=3

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) -auto-ilp32 -opt-prefetch
403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -static -inline-calloc
-opt-malloc-options=3
429.mcf: basepeak = yes
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 -parallel
-par-runtime-control -opt-prefetch -inline-calloc
-opt-malloc-options=3
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
-L/spec/cpu2006.1.1/lib -lsmartheap

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Peak Optimization Flags (Continued)

```
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 questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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