



SPEC® CINT2006 Result

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Bull SAS novascale bullion

SPECint®_rate2006 = 3050

SPECint_rate_base2006 = 2910

CPU2006 license: 20

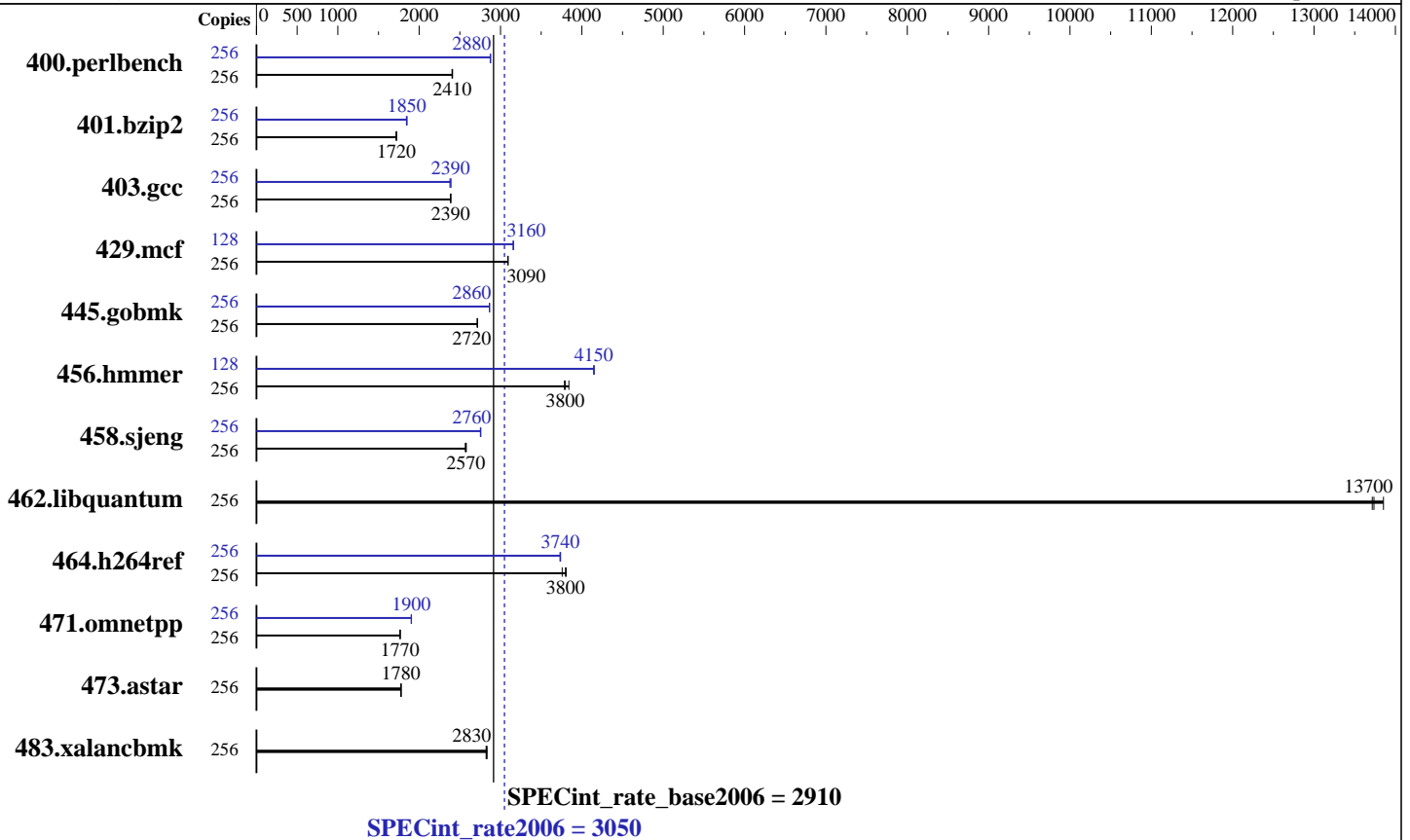
Test sponsor: Bull SAS

Tested by: Bull SAS

Test date: Jun-2011

Hardware Availability: Sep-2011

Software Availability: Apr-2011



Hardware

CPU Name: Intel Xeon X7560
 CPU Characteristics: Intel Turbo Boost Technology up to 2.67 GHz
 CPU MHz: 2267
 FPU: Integrated
 CPU(s) enabled: 128 cores, 16 chips, 8 cores/chip, 2 threads/core
 CPU(s) orderable: 2, 4, 8, 12, 16 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core
 L3 Cache: 24 MB I+D on chip per chip
 Other Cache: None
 Memory: 1 TB (128 x 8 GB 4Rx8 PC3-8500R-7, ECC)
 Disk Subsystem: 1 x 500 GB 7200 RPM SATA
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux 6.0 (x86_64), Kernel 2.6.32-71.el6.x86_64
 Compiler: Intel C++ Compiler XE for applications running on IA-32 Version 12.0.1.116 Build 20101116
 Auto Parallel: No
 File System: tmpfs
 System State: Run level 3 (multi-user)
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V9.01



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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	256	1038	2410	1041	2400	1039	2410	256	869	2880	869	2880	871	2870
401.bzip2	256	1434	1720	1439	1720	1435	1720	256	1337	1850	1335	1850	1340	1840
403.gcc	256	863	2390	864	2390	863	2390	256	863	2390	863	2390	867	2380
429.mcf	256	755	3090	755	3090	755	3090	128	370	3160	370	3160	369	3160
445.gobmk	256	990	2710	989	2720	988	2720	256	938	2860	937	2870	938	2860
456.hammer	256	629	3800	631	3790	622	3840	128	288	4150	288	4150	288	4150
458.sjeng	256	1207	2570	1204	2570	1201	2580	256	1124	2760	1124	2760	1125	2750
462.libquantum	256	386	13700	387	13700	383	13900	256	386	13700	387	13700	383	13900
464.h264ref	256	1507	3760	1488	3810	1492	3800	256	1516	3740	1516	3740	1519	3730
471.omnetpp	256	907	1760	905	1770	906	1770	256	840	1910	841	1900	841	1900
473.astar	256	1011	1780	1011	1780	1011	1780	256	1011	1780	1011	1780	1011	1780
483.xalancbmk	256	623	2840	625	2830	626	2820	256	623	2840	625	2830	626	2820

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.
numactl was used to bind copies to the cores
Tmpfs filesystem set up with:
mkdir -p /mnt/shm
mount -t tmpfs -o rw,mpol=interleave tmpfs /mnt/shm/
The mpol=interleave option sets the NUMA
memory allocation policy for all files to allocate
from each node in turn.
Operating system file is ext3
Spec benchmark is copied from hard disk ext3 to tmpfs
Binaries were compiled with huge pages enabled
but huge pages were not used

Platform Notes

System is composed of 4 modules with 32 DIMMs on each module.

General Notes

The Bull novascale bullion and
the Bull bullx S6030 models are electronically equivalent.
The results have been measured on a novascale bullion model.
Binaries were compiled on RHEL5.5



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Base Compiler Invocation

C benchmarks:
icc -m32

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 -opt-prefetch
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/smartheap -lsmartheap
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

Base Other Flags

C benchmarks:
403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
icc -m32

400.perlbench: icc -m64

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

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Peak Compiler Invocation (Continued)

C++ benchmarks:
icpc -m32

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX
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) -prof-use(pass 2)
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-opt-prefetch -auto-ilp32 -ansi-alias
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

429.mcf: -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 -auto-ilp32

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias -auto-ilp32

456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-unroll4 -auto-ilp32
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

462.libquantum: basepeak = yes

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Peak Optimization Flags (Continued)

464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(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/smartheap -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.20110705.html>
<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20110705.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.20110705.xml>
<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20110705.xml>

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

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