



SPEC® CINT2006 Result

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Bull SAS

NovaScale T860 E1
(Intel Xeon X5470, 3.33 GHz)

SPECint®_rate2006 = 80.7

SPECint_rate_base2006 = 74.4

CPU2006 license: 20

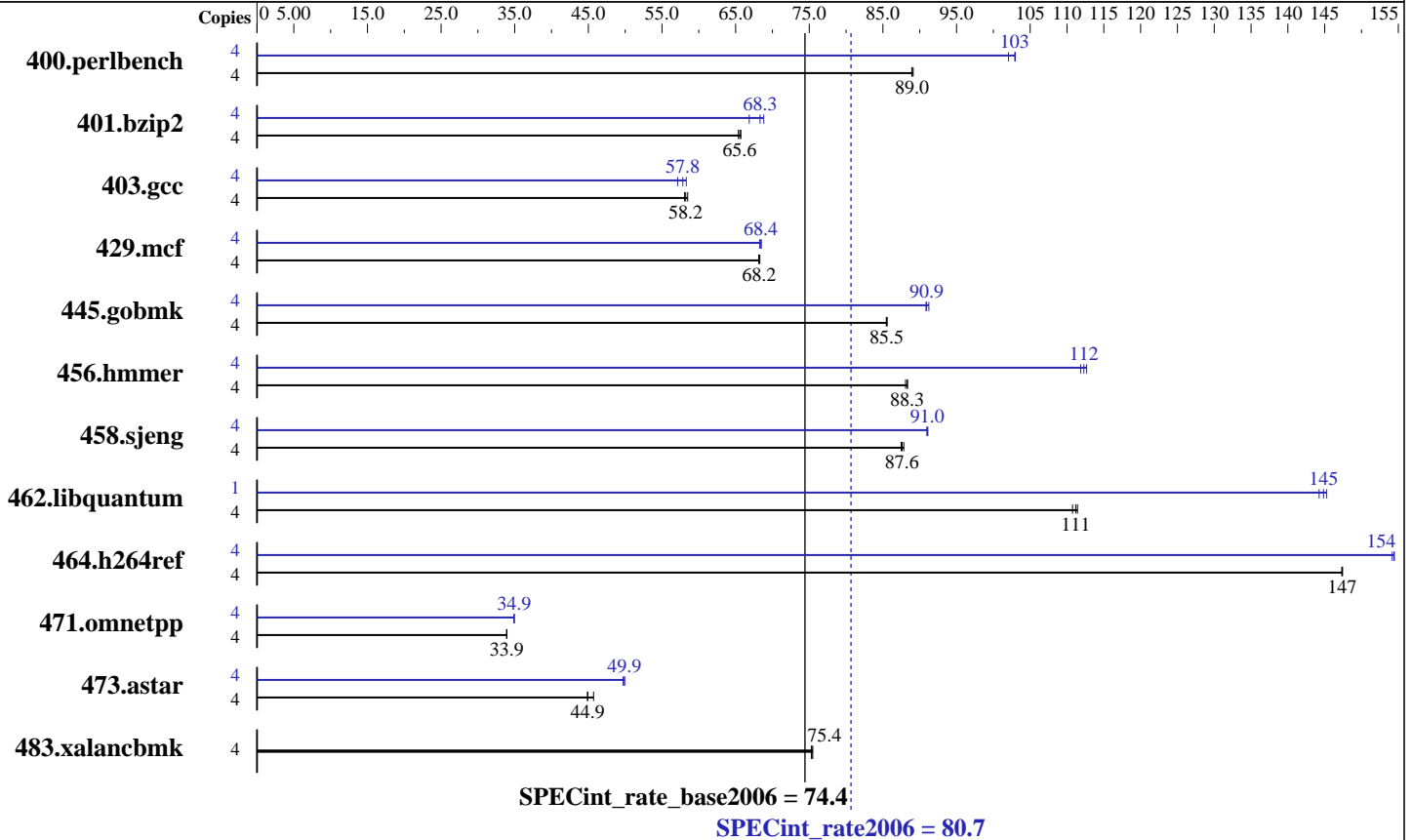
Test sponsor: Bull SAS

Tested by: NEC Corporation

Test date: Nov-2008

Hardware Availability: Oct-2008

Software Availability: Nov-2008



Hardware

CPU Name: Intel Xeon X5470
 CPU Characteristics: 3.33 GHz, 2x6 MB L2 shared, 1333 MHz system bus
 CPU MHz: 3333
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 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 PC2-5300F, 2 rank, CL5-5-5, ECC)
 Disk Subsystem: 1x73.2 GB SAS, 15000RPM
 Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 10 (x86_64) SP2, Kernel 2.6.16.60-0.21-smp
 Compiler: Intel C++ Compiler 11.0 for Linux Build 20080730 Package ID: l_cproc_b_11.0.044
 Auto Parallel: Yes
 File System: ext2
 System State: Run level 3 (multi-user)
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: MicroQuill SmartHeap Library 8.1 Binutils 2.18.50.0.7.20080502



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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 | 4 | 439 | 89.1 | 439 | 89.0 | 439 | 88.9 | 4 | 380 | 103 | 379 | 103 | 383 | 102 |
| 401.bzip2 | 4 | 587 | 65.7 | 589 | 65.6 | 590 | 65.4 | 4 | 577 | 66.8 | 565 | 68.3 | 561 | 68.8 |
| 403.gcc | 4 | 551 | 58.5 | 553 | 58.2 | 555 | 58.1 | 4 | 552 | 58.3 | 557 | 57.8 | 564 | 57.1 |
| 429.mcf | 4 | 535 | 68.1 | 535 | 68.2 | 534 | 68.3 | 4 | 533 | 68.4 | 533 | 68.5 | 534 | 68.3 |
| 445.gobmk | 4 | 491 | 85.5 | 490 | 85.6 | 491 | 85.5 | 4 | 462 | 90.9 | 460 | 91.2 | 461 | 90.9 |
| 456.hammer | 4 | 423 | 88.3 | 422 | 88.3 | 424 | 88.1 | 4 | 332 | 112 | 331 | 113 | 334 | 112 |
| 458.sjeng | 4 | 551 | 87.8 | 552 | 87.6 | 553 | 87.5 | 4 | 531 | 91.1 | 532 | 91.0 | 532 | 91.0 |
| 462.libquantum | 4 | 745 | 111 | 744 | 111 | 748 | 111 | 1 | 144 | 144 | 143 | 145 | 143 | 145 |
| 464.h264ref | 4 | 601 | 147 | 601 | 147 | 600 | 147 | 4 | 573 | 154 | 573 | 154 | 574 | 154 |
| 471.omnetpp | 4 | 737 | 33.9 | 736 | 33.9 | 737 | 33.9 | 4 | 716 | 34.9 | 716 | 34.9 | 716 | 34.9 |
| 473.astar | 4 | 614 | 45.7 | 625 | 44.9 | 626 | 44.9 | 4 | 565 | 49.7 | 563 | 49.9 | 563 | 49.9 |
| 483.xalancbmk | 4 | 367 | 75.3 | 366 | 75.5 | 366 | 75.4 | 4 | 367 | 75.3 | 366 | 75.5 | 366 | 75.4 |

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.
taskset was used to bind processes to cores except
for 462.libquantum peak

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 64M

Platform Notes

Bios settings:
Hardware Prefetcher: Enabled
Adjacent Cache Line Prefetch: Disabled

General Notes

The NEC Express5800/120Lj(Intel Xeon X5470) and
the Bull NovaScale T860 E1(Intel Xeon X5470, 3.33 GHz) models are electronically equivalent.
The results have been measured on a NEC Express5800/120Lj(Intel Xeon X5470) model.



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Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Base Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-xSSE4.1 -ipo -O3 -no-prec-div -static -inline-alloc
-opt-malloc-options=3 -opt-prefetch

C++ benchmarks:
-xSSE4.1 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/opt/SmartHeap_8.1/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/Compiler/11.0/044/bin/intel64/icc
-L/opt/intel/Compiler/11.0/044/ipp/em64t/lib
-I/opt/intel/Compiler/11.0/044/ipp/em64t/include

456.hmmer: /opt/intel/Compiler/11.0/044/bin/intel64/icc
-L/opt/intel/Compiler/11.0/044/ipp/em64t/lib
-I/opt/intel/Compiler/11.0/044/ipp/em64t/include

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Peak Compiler Invocation (Continued)

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
483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -static -ansi-alias -opt-prefetch
401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -static -opt-prefetch -ansi-alias
403.gcc: -xSSE4.1 -ipo -O3 -no-prec-div -static -inline-alloc
-opt-malloc-options=3
429.mcf: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -static -opt-prefetch
445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -O2 -ipo
-no-prec-div -ansi-alias
456.hmmer: -xSSE4.1 -ipo -O3 -no-prec-div -static -unroll2
-ansi-alias
458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -static -unroll4
462.libquantum: -xSSE4.1 -ipo -O3 -no-prec-div -static
-opt-malloc-options=3 -parallel -par-runtime-control
-opt-prefetch
464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -static -unroll2 -ansi-alias

C++ benchmarks:

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Peak Optimization Flags (Continued)

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -ansi-alias -opt-ra-region-strategy=block
-Wl,-z,muldefs -L/opt/SmartHeap_8.1/lib -lsmartheap

473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -ansi-alias -opt-ra-region-strategy=routine
-Wl,-z,muldefs -L/opt/SmartHeap_8.1/lib -lsmartheap

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-ic11.0-int-linux64-revD.20090713.html>

<http://www.spec.org/cpu2006/flags/NEC-Intel-Linux-Settings-flags-revB.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revD.20090713.xml>

<http://www.spec.org/cpu2006/flags/NEC-Intel-Linux-Settings-flags-revB.xml>

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

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