



SPEC® CINT2006 Result

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NEC Corporation

Express5800/GT120a
(Intel Xeon E5502)

SPECint®_rate2006 = 36.2

SPECint_rate_base2006 = 33.6

CPU2006 license: 9006

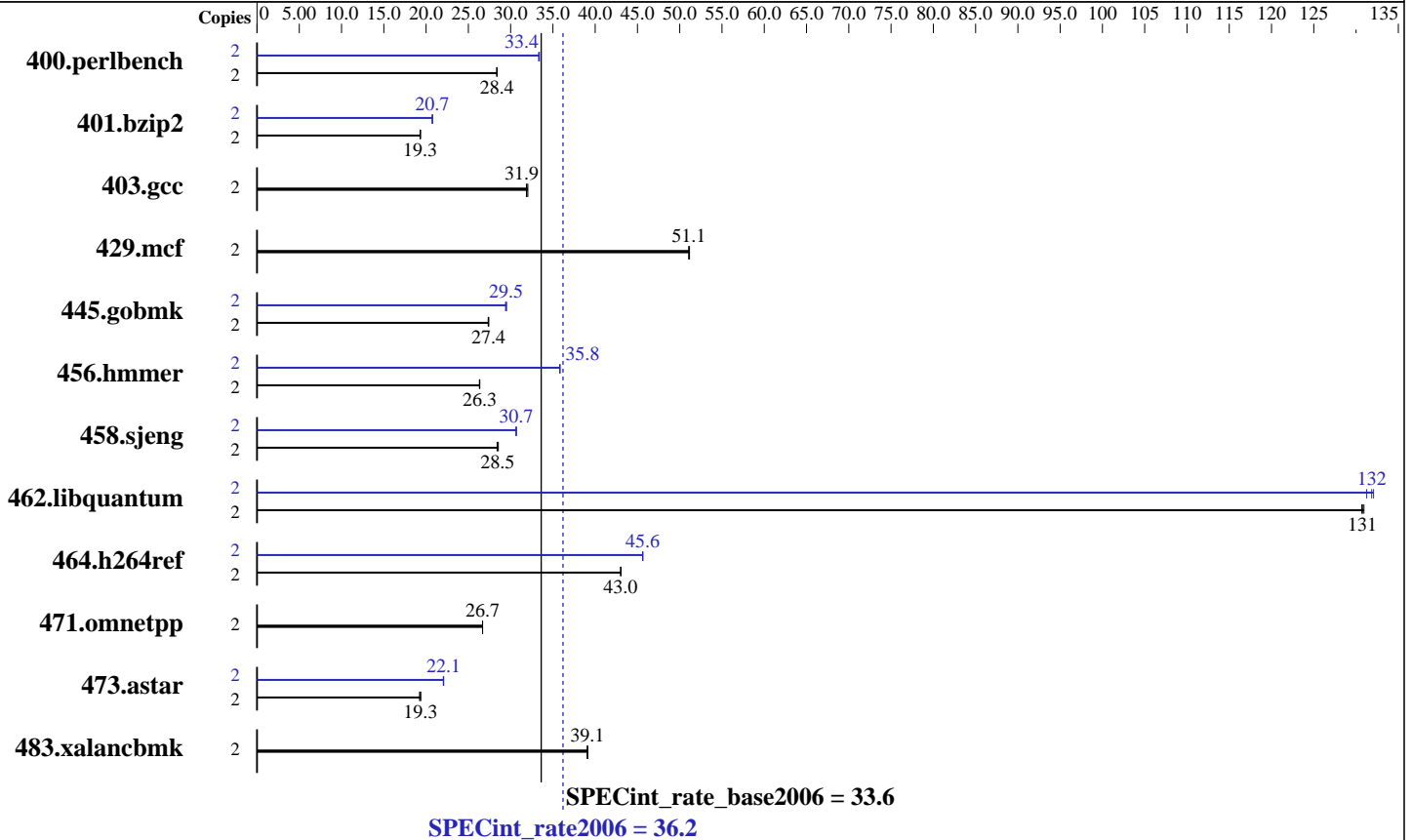
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Jun-2009

Hardware Availability: Apr-2009

Software Availability: Feb-2009



Hardware

CPU Name: Intel Xeon E5502
 CPU Characteristics:
 CPU MHz: 1867
 FPU: Integrated
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip
 CPU(s) orderable: 1,2 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: 4 MB I+D on chip per chip
 Other Cache: None
 Memory: 24 GB (6 X 4 GB PC3-8500R running at 800 MHz)
 Disk Subsystem: 1x160 GB SATA2, 7200 RPM
 Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 10 (x86_64) SP2 with patch Linux kernel 20090119, Kernel 2.6.16.60-0.34-smp
 Compiler: Intel C++ Compiler Professional 11.0 for Linux Build 20090131 Package ID: l_cproc_p_11.0.081
 Auto Parallel: No
 File System: ReiserFS
 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 | 2 | 689 | 28.4 | 688 | 28.4 | 689 | 28.4 | 2 | 585 | 33.4 | 586 | 33.3 | 586 | 33.4 |
| 401.bzip2 | 2 | 1000 | 19.3 | 1001 | 19.3 | 997 | 19.3 | 2 | 931 | 20.7 | 930 | 20.8 | 931 | 20.7 |
| 403.gcc | 2 | 504 | 31.9 | 505 | 31.9 | 503 | 32.0 | 2 | 504 | 31.9 | 505 | 31.9 | 503 | 32.0 |
| 429.mcf | 2 | 357 | 51.1 | 357 | 51.2 | 357 | 51.1 | 2 | 357 | 51.1 | 357 | 51.2 | 357 | 51.1 |
| 445.gobmk | 2 | 766 | 27.4 | 767 | 27.3 | 766 | 27.4 | 2 | 711 | 29.5 | 712 | 29.5 | 714 | 29.4 |
| 456.hammer | 2 | 708 | 26.3 | 709 | 26.3 | 708 | 26.3 | 2 | 521 | 35.8 | 521 | 35.8 | 521 | 35.8 |
| 458.sjeng | 2 | 852 | 28.4 | 848 | 28.5 | 850 | 28.5 | 2 | 789 | 30.7 | 790 | 30.6 | 789 | 30.7 |
| 462.libquantum | 2 | 317 | 131 | 317 | 131 | 317 | 131 | 2 | 316 | 131 | 314 | 132 | 314 | 132 |
| 464.h264ref | 2 | 1028 | 43.0 | 1029 | 43.0 | 1029 | 43.0 | 2 | 970 | 45.6 | 970 | 45.6 | 970 | 45.6 |
| 471.omnetpp | 2 | 468 | 26.7 | 469 | 26.7 | 469 | 26.7 | 2 | 468 | 26.7 | 469 | 26.7 | 469 | 26.7 |
| 473.astar | 2 | 725 | 19.4 | 730 | 19.2 | 726 | 19.3 | 2 | 636 | 22.1 | 637 | 22.0 | 636 | 22.1 |
| 483.xalancbmk | 2 | 353 | 39.1 | 353 | 39.1 | 353 | 39.1 | 2 | 353 | 39.1 | 353 | 39.1 | 353 | 39.1 |

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

Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run

Platform Notes

Default BIOS settings were used.

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Base Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32

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Base Portability Flags (Continued)

462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -static -inline-calloc
-opt-malloc-options=3 -opt-prefetch

C++ benchmarks:

-xSSE4.2 -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/11.0/081/bin/intel64/icc

456.hmmer: /opt/intel/Compiler/11.0/081/bin/intel64/icc

458.sjeng: /opt/intel/Compiler/11.0/081/bin/intel64/icc

C++ benchmarks (except as noted below):

icpc

473.astar: /opt/intel/Compiler/11.0/081/bin/intel64/icpc

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32

401.bzip2: -DSPEC_CPU_LP64

456.hmmer: -DSPEC_CPU_LP64

458.sjeng: -DSPEC_CPU_LP64

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Peak Portability Flags (Continued)

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) -opt-prefetch -ansi-alias -auto-ilp32

403.gcc: basepeak = yes

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
-opt-malloc-options=3 -opt-prefetch

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: basepeak = yes

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/opt/SmartHeap_8.1/lib64 -lsmartheap64

483.xalancbmk: basepeak = yes



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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-revF.html>

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

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

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

Tested with SPEC CPU2006 v1.1.

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