



SPEC® CINT2006 Result

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NEC Corporation

Express5800/i120Ra-e1
(Intel Xeon L5410)

SPECint®2006 = **21.8**

SPECint_base2006 = 19.0

CPU2006 license: 9006

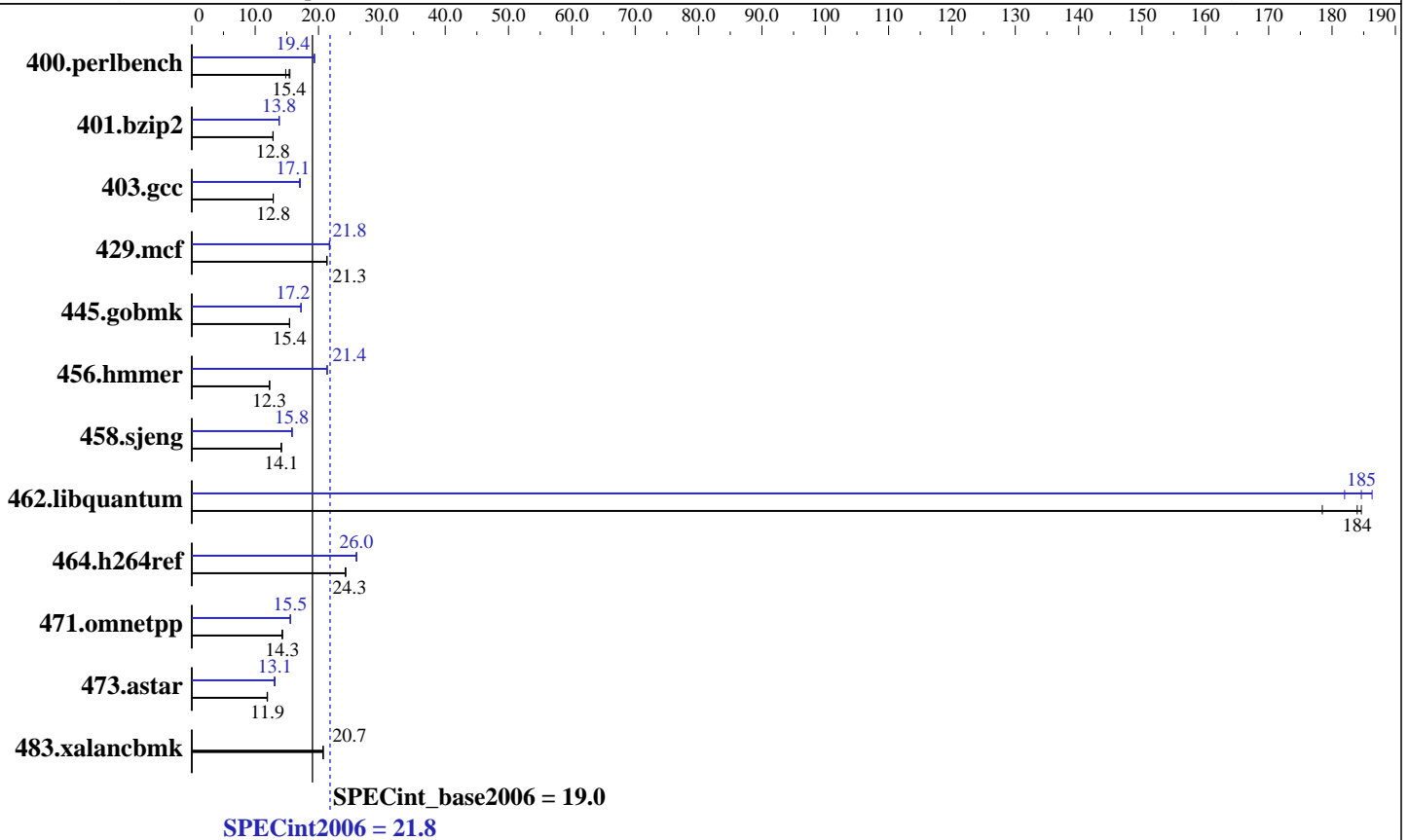
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Jun-2008

Hardware Availability: May-2008

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon L5410
 CPU Characteristics: 2.33 GHz, 2x6 MB L2 shared, 1333 MHz bus
 CPU MHz: 2333
 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 (4x4 GB PC2-5300P, 2 rank, CL5-5-5, ECC)
 Disk Subsystem: 1x80.0 GB SATAII, 7200RPM
 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: 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 2.17



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Results Table

| Benchmark | Base | | | | | | Peak | | | | | |
|----------------|------------|-------------|------------|-------------|------------|-------------|------------|-------------|------------|-------------|------------|-------------|
| | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 400.perlbench | 636 | 15.4 | 659 | 14.8 | 631 | 15.5 | 505 | 19.4 | 505 | 19.3 | 505 | 19.4 |
| 401.bzip2 | 751 | 12.8 | 752 | 12.8 | 754 | 12.8 | 701 | 13.8 | 699 | 13.8 | 700 | 13.8 |
| 403.gcc | 626 | 12.8 | 627 | 12.8 | 626 | 12.9 | 471 | 17.1 | 473 | 17.0 | 471 | 17.1 |
| 429.mcf | 427 | 21.4 | 428 | 21.3 | 428 | 21.3 | 419 | 21.8 | 420 | 21.7 | 419 | 21.8 |
| 445.gobmk | 679 | 15.4 | 680 | 15.4 | 680 | 15.4 | 609 | 17.2 | 609 | 17.2 | 608 | 17.3 |
| 456.hmmer | 761 | 12.3 | 761 | 12.3 | 760 | 12.3 | 437 | 21.4 | 437 | 21.4 | 437 | 21.4 |
| 458.sjeng | 855 | 14.2 | 858 | 14.1 | 857 | 14.1 | 766 | 15.8 | 763 | 15.9 | 766 | 15.8 |
| 462.libquantum | 112 | 185 | 113 | 184 | 116 | 178 | 114 | 182 | 111 | 186 | 112 | 185 |
| 464.h264ref | 912 | 24.3 | 914 | 24.2 | 911 | 24.3 | 851 | 26.0 | 850 | 26.0 | 853 | 26.0 |
| 471.omnetpp | 437 | 14.3 | 437 | 14.3 | 438 | 14.3 | 401 | 15.6 | 402 | 15.5 | 402 | 15.5 |
| 473.astar | 588 | 11.9 | 591 | 11.9 | 588 | 11.9 | 539 | 13.0 | 536 | 13.1 | 534 | 13.1 |
| 483.xalancbmk | 333 | 20.7 | 333 | 20.7 | 332 | 20.8 | 333 | 20.7 | 333 | 20.7 | 332 | 20.8 |

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

Platform Notes

Bios settings:
Hardware Prefetcher: Enabled
Adjacent Cache Line Prefetch: Enabled
Intel SpeedStep Technology: Disabled

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/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/cce/10.1.008/bin/icc
-L/opt/intel/cce/10.1.008/lib
-I/opt/intel/cce/10.1.008/include

456.hmmer: /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.hmmer: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX

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Peak Portability Flags (Continued)

483.xalancbmk: -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/opt/SmartHeap_8.1/lib -lsmartheap

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/opt/SmartHeap_8.1/lib -lsmartheap

483.xalancbmk: 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/NEC-Intel-ic10.1-INT-ia32-linux-flags.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/NEC-Intel-ic10.1-INT-ia32-linux-flags.xml>

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

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