



SPEC® CINT2006 Result

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NEC Corporation

Express5800/B140a-T
(Intel Xeon E7310)

SPECint®_rate2006 = 111

SPECint_rate_base2006 = 105

CPU2006 license: 9006

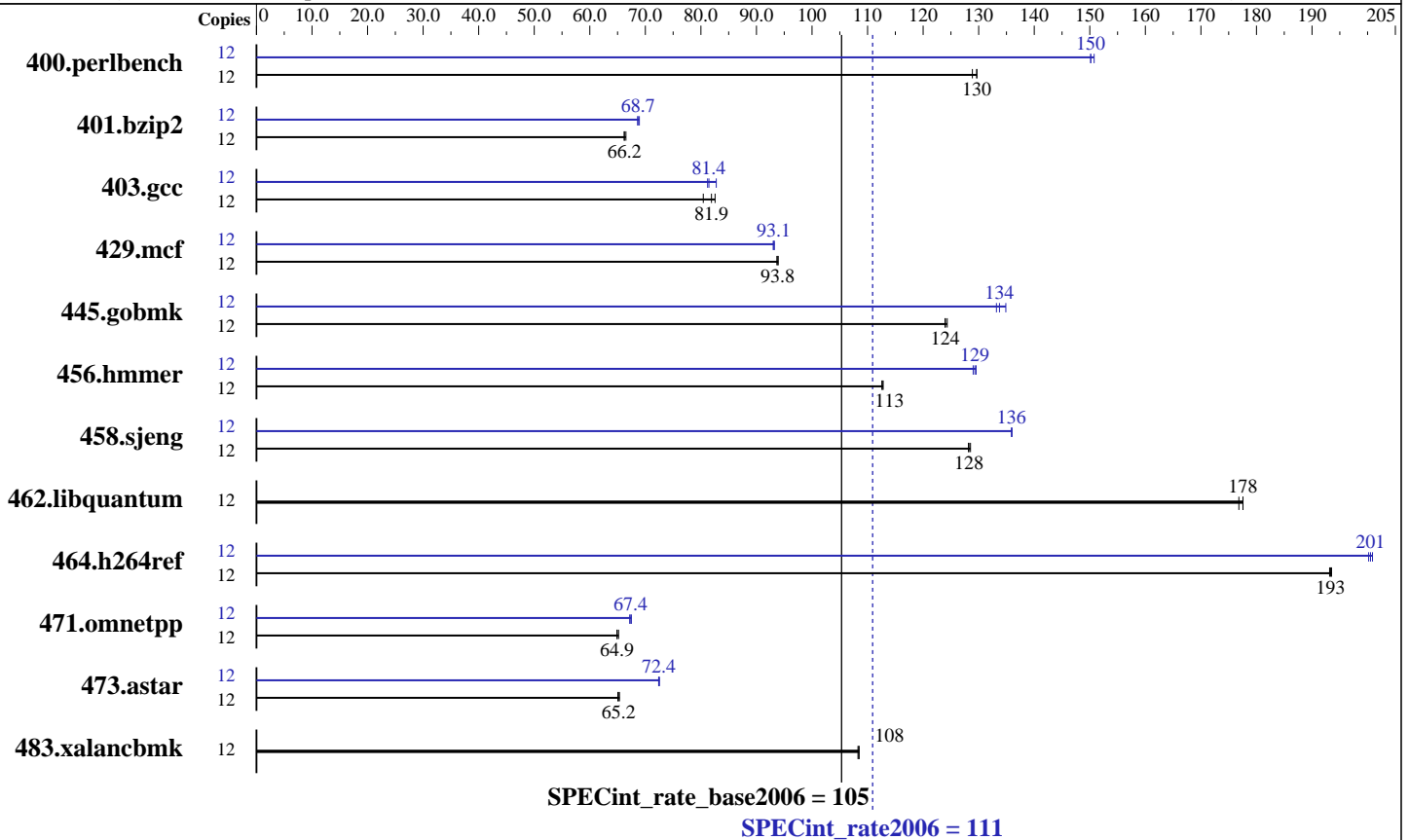
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Mar-2009

Hardware Availability: Feb-2009

Software Availability: Nov-2008



Hardware

CPU Name: Intel Xeon E7310
 CPU Characteristics: 1066 MHz system bus
 CPU MHz: 1600
 FPU: Integrated
 CPU(s) enabled: 12 cores, 3 chips, 4 cores/chip
 CPU(s) orderable: 1,2,3,4 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 4 MB I+D on chip per chip, 2 MB shared / 2 cores
 L3 Cache: None
 Other Cache: None
 Memory: 32 GB (16x2 GB PC2-5300F, 2 rank, CL5-5-5, ECC)
 Disk Subsystem: 1x146.5 GB SAS, 10000 RPM
 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 20081105 Package ID: l_cproc_p_11.0.074
 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 | 12 | 904 | 130 | 910 | 129 | 904 | 130 | 12 | 781 | 150 | 781 | 150 | 778 | 151 |
| 401.bzip2 | 12 | 1741 | 66.5 | 1750 | 66.2 | 1748 | 66.2 | 12 | 1680 | 68.9 | 1686 | 68.7 | 1688 | 68.6 |
| 403.gcc | 12 | 1170 | 82.5 | 1180 | 81.9 | 1201 | 80.4 | 12 | 1186 | 81.4 | 1167 | 82.8 | 1190 | 81.2 |
| 429.mcf | 12 | 1165 | 93.9 | 1166 | 93.8 | 1168 | 93.7 | 12 | 1177 | 93.0 | 1175 | 93.1 | 1174 | 93.2 |
| 445.gobmk | 12 | 1016 | 124 | 1012 | 124 | 1015 | 124 | 12 | 945 | 133 | 933 | 135 | 941 | 134 |
| 456.hammer | 12 | 995 | 113 | 994 | 113 | 992 | 113 | 12 | 868 | 129 | 866 | 129 | 864 | 130 |
| 458.sjeng | 12 | 1132 | 128 | 1133 | 128 | 1130 | 129 | 12 | 1068 | 136 | 1068 | 136 | 1068 | 136 |
| 462.libquantum | 12 | 1406 | 177 | 1400 | 178 | 1400 | 178 | 12 | 1406 | 177 | 1400 | 178 | 1400 | 178 |
| 464.h264ref | 12 | 1372 | 194 | 1373 | 193 | 1375 | 193 | 12 | 1324 | 201 | 1327 | 200 | 1322 | 201 |
| 471.omnetpp | 12 | 1155 | 64.9 | 1156 | 64.9 | 1151 | 65.2 | 12 | 1111 | 67.5 | 1117 | 67.2 | 1113 | 67.4 |
| 473.astar | 12 | 1293 | 65.2 | 1295 | 65.0 | 1289 | 65.3 | 12 | 1164 | 72.4 | 1161 | 72.5 | 1163 | 72.4 |
| 483.xalancbmk | 12 | 765 | 108 | 764 | 108 | 763 | 108 | 12 | 765 | 108 | 764 | 108 | 763 | 108 |

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

Operating System Notes

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

Platform Notes

Bios settings:
Hardware Prefetcher: Disabled
Adjacent Cache Line Prefetch: Disabled
FSB High Bandwidth Optimization: Disabled

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:

-xSSSE3 -ipo -O3 -no-prec-div -static -inline-calloc
-opt-malloc-options=3 -opt-prefetch

C++ benchmarks:

-xSSSE3 -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/11.0/074/bin/intel64/icc
-L/opt/intel/Compiler/11.0/074/ipp/em64t/lib
-I/opt/intel/Compiler/11.0/074/ipp/em64t/include

456.hmmer: /opt/intel/Compiler/11.0/074/bin/intel64/icc
-L/opt/intel/Compiler/11.0/074/ipp/em64t/lib
-I/opt/intel/Compiler/11.0/074/ipp/em64t/include

C++ benchmarks:

icpc

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64

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Peak Portability Flags (Continued)

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) -xSSSE3 -ipo -O3
-no-prec-div -static -ansi-alias -opt-prefetch
401.bzp2: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
-no-prec-div -static -opt-prefetch -ansi-alias
403.gcc: -xSSSE3 -ipo -O3 -no-prec-div -static -inline-calloc
-opt-malloc-options=3
429.mcf: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
-no-prec-div -static -opt-prefetch
445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -O2 -ipo
-no-prec-div -ansi-alias
456.hmmer: -xSSSE3 -ipo -O3 -no-prec-div -static -unroll2
-ansi-alias
458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
-no-prec-div -static -unroll4
462.libquantum: basepeak = yes
464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
-no-prec-div -static -unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
-no-prec-div -ansi-alias -opt-ra-region-strategy=block
-Wl,-z,muldefs -L/opt/SmartHeap_8.1/lib -lsmarheap
473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
-no-prec-div -ansi-alias -opt-ra-region-strategy=routine
-Wl,-z,muldefs -L/opt/SmartHeap_8.1/lib -lsmarheap
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-revE.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-revE.xml>

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