



SPEC[®] CINT2006 Result

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NEC Corporation

Express5800/B140a-T
(Intel Xeon E7310)

SPECint[®]_rate2006 = 75.1

SPECint_rate_base2006 = 71.0

CPU2006 license: 9006

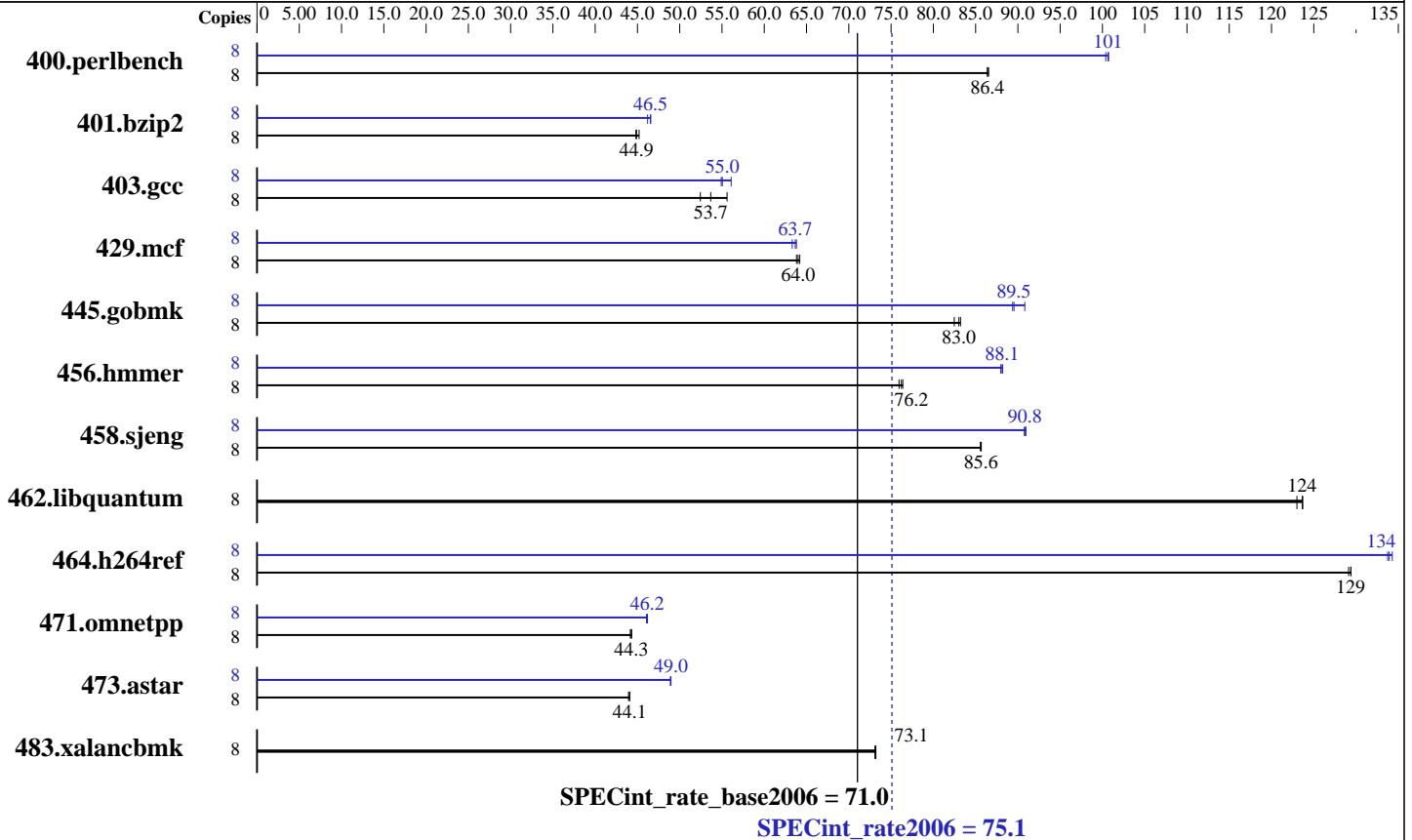
Test sponsor: NEC Corporation

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: 8 cores, 2 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	8	905	86.4	<u>905</u>	<u>86.4</u>	903	86.5	8	779	100	<u>776</u>	<u>101</u>	776	101
401.bzip2	8	1722	44.8	<u>1720</u>	<u>44.9</u>	1708	45.2	8	1671	46.2	<u>1658</u>	<u>46.5</u>	1658	46.6
403.gcc	8	<u>1200</u>	<u>53.7</u>	1228	52.4	1158	55.6	8	1148	56.1	1173	54.9	<u>1170</u>	<u>55.0</u>
429.mcf	8	<u>1140</u>	<u>64.0</u>	1143	63.8	1136	64.2	8	1153	63.3	<u>1146</u>	<u>63.7</u>	1143	63.8
445.gobmk	8	<u>1011</u>	<u>83.0</u>	1008	83.2	1017	82.5	8	924	90.8	<u>937</u>	<u>89.5</u>	939	89.4
456.hammer	8	983	75.9	<u>979</u>	<u>76.2</u>	977	76.4	8	848	88.0	<u>847</u>	<u>88.1</u>	846	88.2
458.sjeng	8	<u>1130</u>	<u>85.6</u>	1130	85.7	1131	85.6	8	1064	91.0	1066	90.8	<u>1066</u>	<u>90.8</u>
462.libquantum	8	1340	124	<u>1341</u>	<u>124</u>	1348	123	8	1340	124	<u>1341</u>	<u>124</u>	1348	123
464.h264ref	8	<u>1368</u>	<u>129</u>	1368	129	1371	129	8	1318	134	1324	134	<u>1322</u>	<u>134</u>
471.omnetpp	8	1128	44.3	1132	44.2	<u>1130</u>	<u>44.3</u>	8	1085	46.1	1082	46.2	<u>1083</u>	<u>46.2</u>
473.astar	8	<u>1274</u>	<u>44.1</u>	1278	43.9	1274	44.1	8	1149	48.9	<u>1147</u>	<u>49.0</u>	1147	49.0
483.xalancbmk	8	755	73.1	754	73.2	<u>755</u>	<u>73.1</u>	8	755	73.1	754	73.2	<u>755</u>	<u>73.1</u>

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 other inquiries, please contact webmaster@spec.org.

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