



SPEC® CINT2006 Result

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NEC Corporation

Express5800/R110a-1
(Intel Xeon E3110)

SPECint®2006 = 27.4

SPECint_base2006 = 24.4

CPU2006 license: 9006

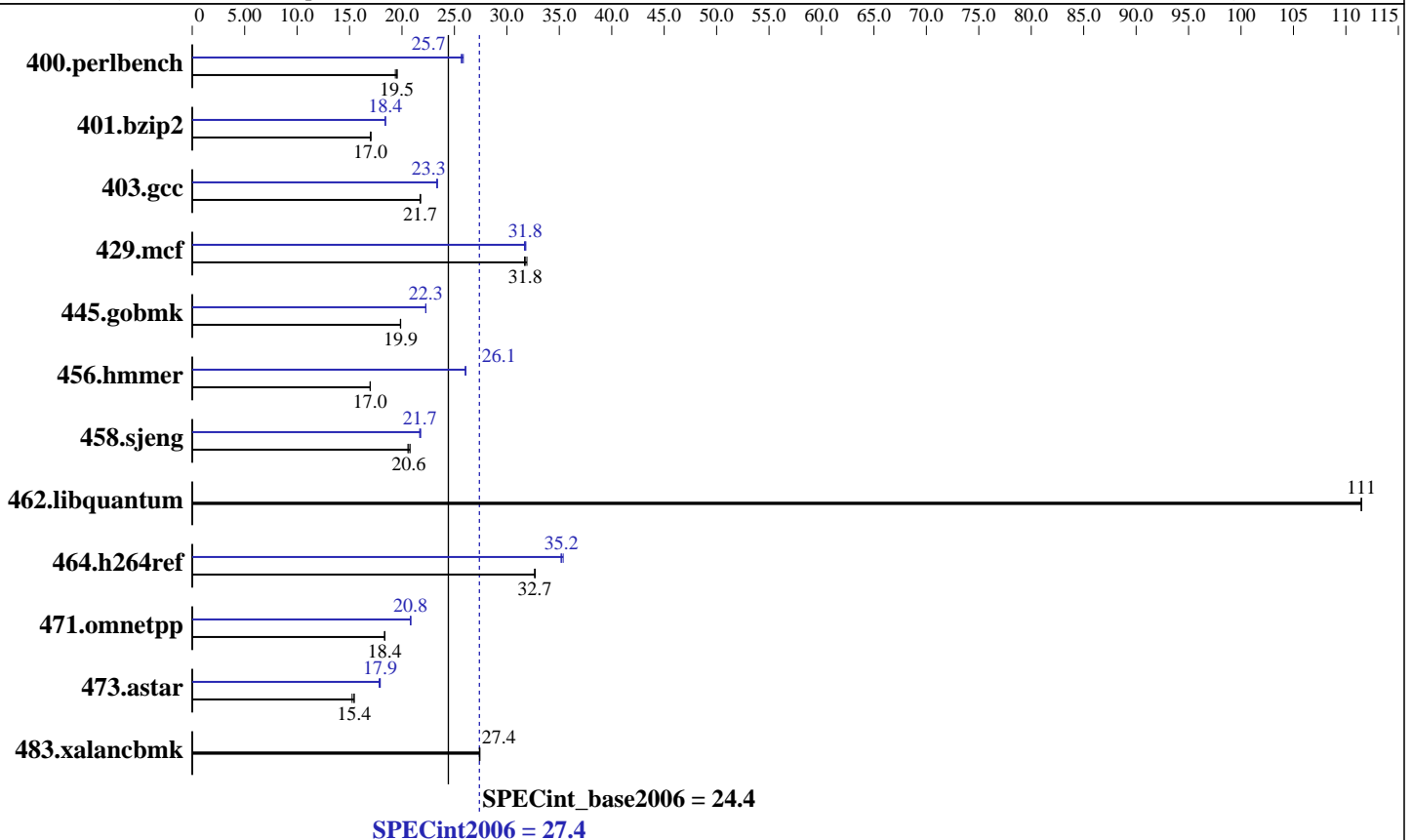
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Sep-2009

Hardware Availability: May-2009

Software Availability: Nov-2008



Hardware

CPU Name: Intel Xeon E3110
 CPU Characteristics: 1333 MHz bus
 CPU MHz: 3000
 FPU: Integrated
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip
 CPU(s) orderable: 1 chip
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 6 MB I+D on chip per chip
 L3 Cache: None
 Other Cache: None
 Memory: 8 GB (4x2 GB PC2-6400E, 2 rank, CL6-6-6, ECC)
 Disk Subsystem: 1x160 GB SATA2, 7200 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 Professional 11.0 for Linux Build 20080930 Package ID: l_cproc_p_11.0.069
 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 2.18.50.0.7.20080502



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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	501	19.5	500	19.5	504	19.4	380	25.7	378	25.9	381	25.7
401.bzip2	566	17.0	568	17.0	568	17.0	524	18.4	524	18.4	524	18.4
403.gcc	370	21.8	370	21.7	371	21.7	345	23.3	344	23.4	345	23.3
429.mcf	288	31.7	286	31.9	287	31.8	287	31.8	287	31.8	288	31.7
445.gobmk	528	19.9	528	19.9	529	19.8	471	22.3	471	22.3	471	22.3
456.hammer	550	17.0	550	17.0	550	17.0	358	26.1	358	26.1	358	26.0
458.sjeng	586	20.6	588	20.6	582	20.8	557	21.7	558	21.7	555	21.8
462.libquantum	186	111	186	111	186	111	186	111	186	111	186	111
464.h264ref	678	32.7	677	32.7	678	32.7	629	35.2	626	35.4	629	35.2
471.omnetpp	341	18.3	341	18.4	340	18.4	300	20.8	300	20.8	300	20.8
473.astar	455	15.4	461	15.2	455	15.4	394	17.8	392	17.9	392	17.9
483.xalancbmk	252	27.4	252	27.4	252	27.4	252	27.4	252	27.4	252	27.4

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
KMP_AFFINITY set to "physical,0"
```

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 -parallel
-par-runtime-control -opt-prefetch

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Base Optimization Flags (Continued)

C++ benchmarks:

```
-xSSE4.1 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs  
-L/opt/SmartHeap_8.1/lib -lsmarheap
```

Base Other Flags

C benchmarks:

```
403.gcc: -Dalloca=_alloca
```

Peak Compiler Invocation

C benchmarks (except as noted below):

icc

```
401.bzip2: /opt/intel/Compiler/11.0/069/bin/intel64/icc  
-L/opt/intel/Compiler/11.0/069/ipp/em64t/lib  
-I/opt/intel/Compiler/11.0/069/ipp/em64t/include
```

```
456.hmmer: /opt/intel/Compiler/11.0/069/bin/intel64/icc  
-L/opt/intel/Compiler/11.0/069/ipp/em64t/lib  
-I/opt/intel/Compiler/11.0/069/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  
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
```

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Peak Optimization Flags (Continued)

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -static -auto-ilp32 -opt-prefetch
-ansi-alias

403.gcc: -xSSE4.1 -ipo -O3 -no-prec-div -static -inline-calloc
-opt-malloc-options=3

429.mcf: -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.hmmr: -xSSE4.1 -ipo -O3 -no-prec-div -static -unroll2
-ansi-alias -auto-ilp32

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -static -unroll4

462.libquantum: basepeak = yes

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3
-no-prec-div -static -unroll2 -ansi-alias

C++ benchmarks:

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-revG.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-revG.xml>

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

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Page 4



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

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