



SPEC® CINT2006 Result

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NEC Corporation

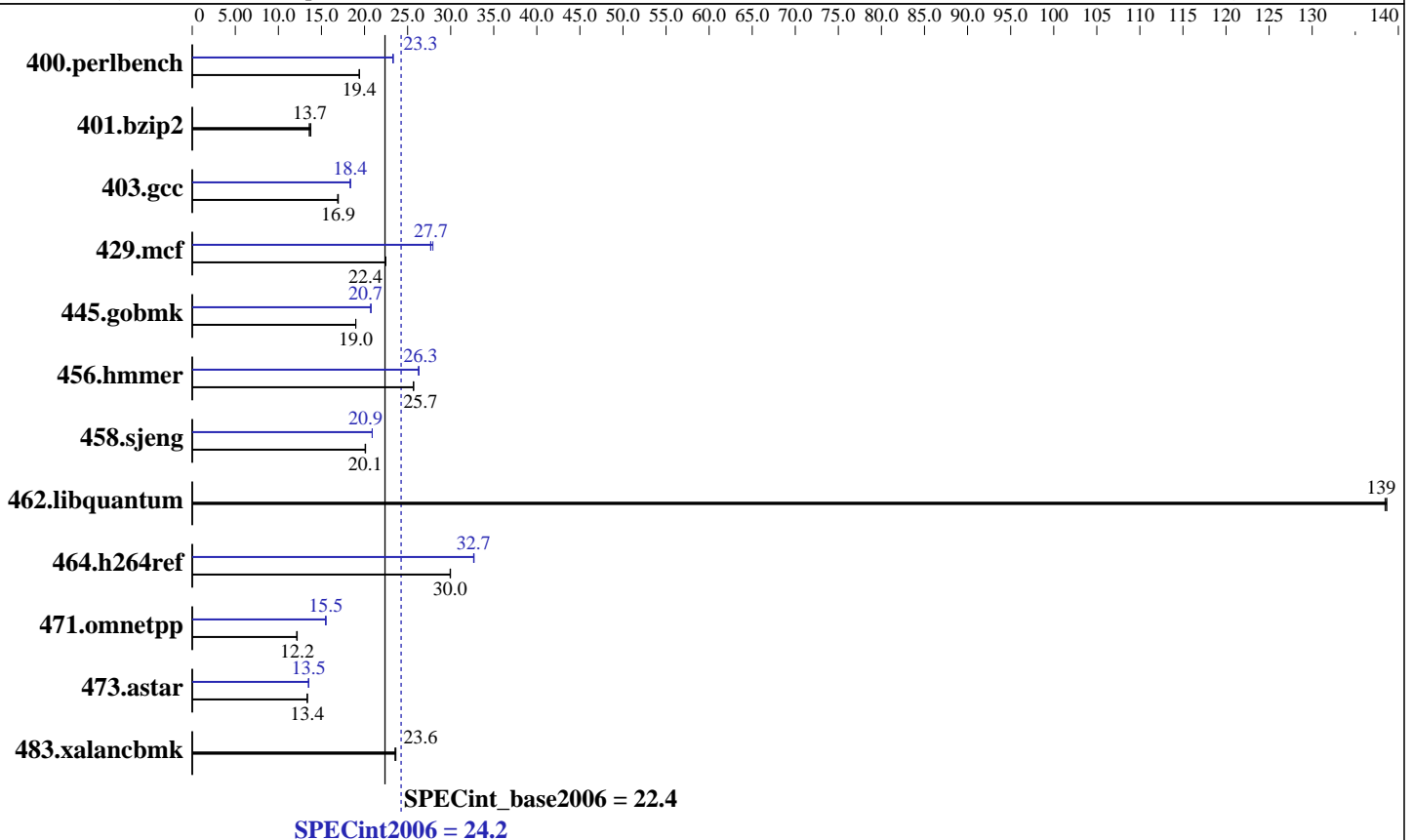
Express5800/T110b
(Intel Pentium G6950)

SPECint®2006 = 24.2

SPECint_base2006 = 22.4

CPU2006 license: 9006
Test sponsor: NEC Corporation
Tested by: NEC Corporation

Test date: Feb-2010
Hardware Availability: Jan-2010
Software Availability: Nov-2009



Hardware

CPU Name: Intel Pentium G6950
 CPU Characteristics:
 CPU MHz: 2800
 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: 256 KB I+D on chip per core
 L3 Cache: 3 MB I+D on chip per chip
 Other Cache: None
 Memory: 8 GB (4 x 2 GB PC3-10600E running at 1066 MHz)
 Disk Subsystem: 1x160 GB SATA, 7200 RPM
 Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 11 (x86_64), Kernel 2.6.27.19-5-default
 Compiler: Intel C++ Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091012 Package ID: 1_cproc_p_11.1.059
 Auto Parallel: Yes
 File System: ext3
 System State: Run level 3 (multi-user)
 Base Pointers: 64-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V8.1



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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	504	19.4	<u>504</u>	<u>19.4</u>	503	19.4	419	23.3	420	23.3	<u>419</u>	<u>23.3</u>
401.bzip2	701	13.8	<u>705</u>	<u>13.7</u>	711	13.6	701	13.8	<u>705</u>	<u>13.7</u>	711	13.6
403.gcc	475	17.0	<u>475</u>	<u>16.9</u>	477	16.9	<u>438</u>	<u>18.4</u>	438	18.4	439	18.3
429.mcf	406	22.5	<u>406</u>	<u>22.4</u>	407	22.4	330	27.7	<u>329</u>	<u>27.7</u>	326	27.9
445.gobmk	<u>553</u>	<u>19.0</u>	552	19.0	553	19.0	506	20.7	506	20.7	<u>506</u>	<u>20.7</u>
456.hammer	363	25.7	363	25.7	<u>363</u>	<u>25.7</u>	<u>355</u>	<u>26.3</u>	355	26.3	355	26.3
458.sjeng	<u>602</u>	<u>20.1</u>	601	20.1	603	20.1	<u>579</u>	<u>20.9</u>	579	20.9	579	20.9
462.libquantum	149	139	150	138	<u>149</u>	<u>139</u>	149	139	150	138	<u>149</u>	<u>139</u>
464.h264ref	739	29.9	738	30.0	<u>739</u>	<u>30.0</u>	676	32.7	677	32.7	<u>677</u>	<u>32.7</u>
471.omnetpp	513	12.2	<u>513</u>	<u>12.2</u>	516	12.1	<u>403</u>	<u>15.5</u>	403	15.5	404	15.5
473.astar	525	13.4	<u>526</u>	<u>13.4</u>	526	13.3	520	13.5	<u>520</u>	<u>13.5</u>	520	13.5
483.xalancbmk	<u>293</u>	<u>23.6</u>	292	23.6	293	23.5	<u>293</u>	<u>23.6</u>	292	23.6	293	23.5

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

Platform Notes

Default BIOS settings were used.

General Notes

OMP_NUM_THREADS set to number of cores
KMP_AFFINITY set to granularity=fine,scatter

Base Compiler Invocation

C benchmarks:
icc -m64

C++ benchmarks:
icpc -m64

Base Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64

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Base Portability Flags (Continued)

```

401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hmmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
471.omnetpp: -DSPEC_CPU_LP64
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

```

Base Optimization Flags

C benchmarks:

```

-xSSSE3 -ipo -O3 -no-prec-div -static -parallel
-par-runtime-control -opt-prefetch

```

C++ benchmarks:

```

-xSSSE3 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/opt/SmartHeap_8.1/lib64 -lsmartheap64

```

Base Other Flags

C benchmarks:

```

403.gcc: -Dalloca=_alloca

```

Peak Compiler Invocation

C benchmarks (except as noted below):

```

icc -m64

```

```

429.mcf: icc -m32

```

C++ benchmarks (except as noted below):

```

icpc -m64

```

```

471.omnetpp: icpc -m32

```



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Peak Portability Flags

```

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LP64 -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.bzip2: basepeak = yes

403.gcc: -xSSSE3 -ipo -O3 -no-prec-div -static -inline-alloc
         -opt-malloc-options=3

429.mcf: -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 -auto-ilp32

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 -lsmartheap

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/lib64 -lsmartheap64

```

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Peak Optimization Flags (Continued)

483.xalanbmk: basepeak = yes

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/Intel-ic11.1-int-linux64-revE.20100302.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-int-linux64-revE.20100302.xml>

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

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