SPEC® CINT2006 Result
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NEC Corporation

Express5800/R110a-1
(Intel Pentium Dual-Core E2160)

SPECint®2006 =　　14.6
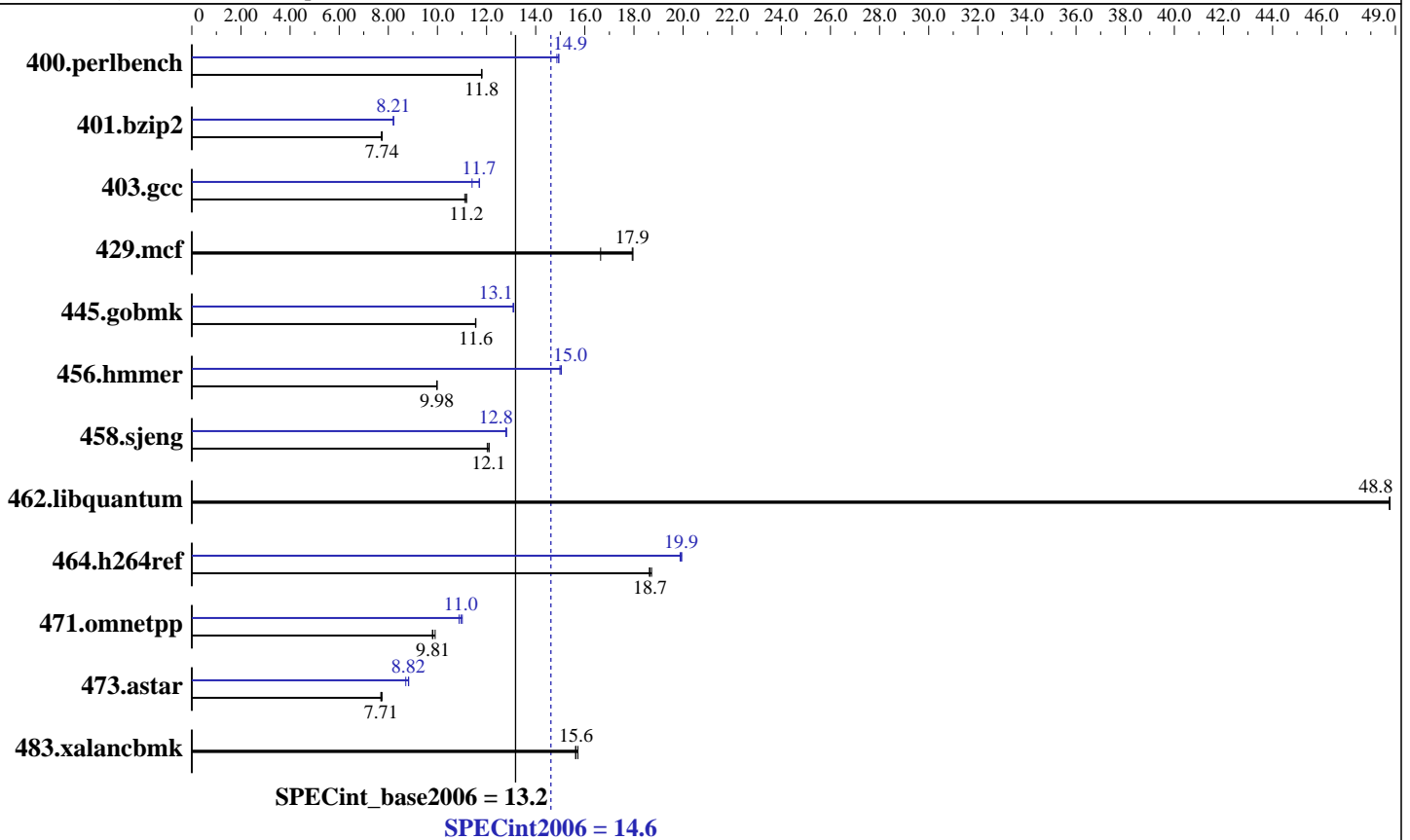
SPECint_base2006 =　　13.2

CPU2006 license: 9006

Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Sep-2009

Hardware Availability: May-2009

Software Availability: Nov-2008

SPECint_base2006 = 13.2

SPECint2006 = 14.6

Benchmark	base	peak
400.perlbench	11.8	14.9
401.bzip2	7.74	8.21
403.gcc	11.2	11.7
429.mcf	17.9	
445.gobmk	11.6	13.1
456.hmmer	9.98	15.0
458.sjeng	12.1	12.8
462.libquantum	48.8	
464.h264ref	18.7	19.9
471.omnetpp	9.81	11.0
473.astar	7.71	8.82
483.xalancbmk	15.6	

Hardware

CPU Name: Intel Pentium Dual-Core E2160

CPU Characteristics: 1.80 GHz, 1 MB L2, 800 MHz bus

CPU MHz: 1800

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: 1 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	**828**	**11.8**	827	11.8	829	11.8	654	14.9	**654**	**14.9**	657	14.9
401.bzip2	1250	7.72	**1247**	**7.74**	1246	7.75	1177	8.20	**1175**	**8.21**	1174	8.22
403.gcc	724	11.1	720	11.2	**720**	**11.2**	**688**	**11.7**	688	11.7	706	11.4
429.mcf	548	16.6	508	18.0	**509**	**17.9**	548	16.6	508	18.0	**509**	**17.9**
445.gobmk	**908**	**11.6**	908	11.5	907	11.6	**801**	**13.1**	802	13.1	800	13.1
456.hmmer	935	9.98	**935**	**9.98**	935	9.98	623	15.0	620	15.0	**621**	**15.0**
458.sjeng	**1001**	**12.1**	1000	12.1	1006	12.0	**945**	**12.8**	944	12.8	947	12.8
462.libquantum	425	48.8	425	48.8	**425**	**48.8**	425	48.8	425	48.8	**425**	**48.8**
464.h264ref	1182	18.7	1188	18.6	**1186**	**18.7**	1110	19.9	**1111**	**19.9**	1113	19.9
471.omnetpp	631	9.91	**637**	**9.81**	638	9.79	568	11.0	575	10.9	**570**	**11.0**
473.astar	906	7.74	912	7.70	**911**	**7.71**	**796**	**8.82**	795	8.83	806	8.71
483.xalancbmk	**441**	**15.6**	439	15.7	442	15.6	**441**	**15.6**	439	15.7	442	15.6

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"
```

Platform Notes

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

Base Compiler Invocation

C benchmarks:
```
icc
```

C++ benchmarks:
```
icpc
```

Base Portability Flags

```
400.perlbench: -DSPEC_CPU_LINUX_IA32
```

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Base Portability Flags (Continued)

```
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -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/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/11.0/069/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
```

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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) -xSSSE3 -ipo -O3 -no-prec-div -static -ansi-alias -opt-prefetch`

401.bzip2: `-prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3 -no-prec-div -static -auto-ilp32 -opt-prefetch -ansi-alias`

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

429.mcf: `basepeak = yes`

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/lib -lsmartheap`

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-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

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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