SPEC® CINT2006 Result
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NEC Corporation

Express5800/B120a
(Intel Xeon E5502)

$SPECint®_rate2006 = $ 36.0

$SPECint_rate_base2006 = $ 33.5

CPU2006 license: 9006	**Test date:** Aug-2009
Test sponsor: NEC Corporation	**Hardware Availability:** Apr-2009
Tested by: NEC Corporation	**Software Availability:** Feb-2009

SPECint_rate_base2006 = 33.5

SPECint_rate2006 = 36.0

Hardware

CPU Name:	Intel Xeon E5502
CPU Characteristics:	
CPU MHz:	1867
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 cores/chip
CPU(s) orderable:	1,2 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core
L3 Cache:	4 MB I+D on chip per chip
Other Cache:	None
Memory:	12 GB (3 X 4 GB PC3-8500R running at 800 MHz)
Disk Subsystem:	1x73 GB SATA2, 10000 RPM
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 10 (x86_64) SP2 with patch Linux kernel 20090119, Kernel 2.6.16.60-0.34-smp
Compiler:	Intel C++ Compiler Professional 11.0 for Linux Build 20090131 Package ID: l_cproc_p_11.0.081
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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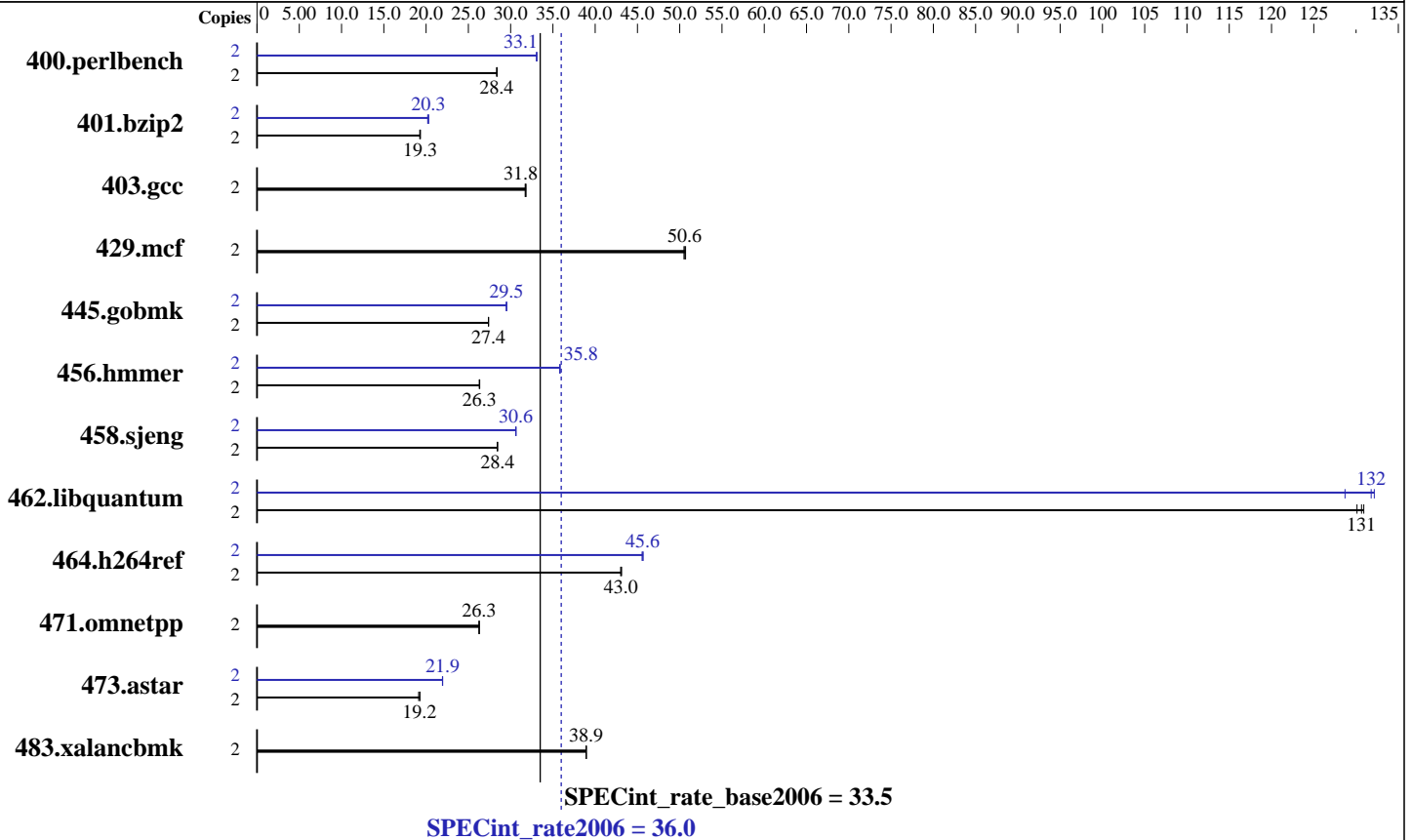
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Results Table

Benchmark	Base						Peak					
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	2	**689**	**28.4**	689	28.4	688	28.4	2	**591**	**33.1**	590	33.1	591	33.1
401.bzip2	2	998	19.3	1003	19.3	**1000**	**19.3**	2	**952**	**20.3**	956	20.2	951	20.3
403.gcc	2	506	31.8	**507**	**31.8**	508	31.7	2	506	31.8	**507**	**31.8**	508	31.7
429.mcf	2	361	50.5	360	50.7	**360**	**50.6**	2	361	50.5	360	50.7	**360**	**50.6**
445.gobmk	2	766	27.4	**766**	**27.4**	766	27.4	2	712	29.5	**711**	**29.5**	711	29.5
456.hmmer	2	710	26.3	**709**	**26.3**	708	26.3	2	**521**	**35.8**	521	35.8	521	35.8
458.sjeng	2	851	28.4	851	28.4	**851**	**28.4**	2	**790**	**30.6**	790	30.6	791	30.6
462.libquantum	2	317	131	**317**	**131**	319	130	2	322	129	314	132	**314**	**132**
464.h264ref	2	1026	43.1	1029	43.0	**1028**	**43.0**	2	969	45.7	**970**	**45.6**	972	45.5
471.omnetpp	2	475	26.3	476	26.3	**476**	**26.3**	2	475	26.3	476	26.3	**476**	**26.3**
473.astar	2	734	19.1	729	19.3	**729**	**19.2**	2	**640**	**21.9**	639	22.0	640	21.9
483.xalancbmk	2	355	38.9	354	39.0	**354**	**38.9**	2	355	38.9	354	39.0	**354**	**38.9**

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.
     numactl was used to bind copies to the cores

Operating System Notes

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

Platform Notes

    Default BIOS settings were used.

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:

```
-xSSE4.2 -ipo -O3 -no-prec-div -static -inline-calloc
-opt-malloc-options=3 -opt-prefetch
```

C++ benchmarks:

```
-xSSE4.2 -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/11.0/081/bin/intel64/icc`

456.hmmer: `/opt/intel/Compiler/11.0/081/bin/intel64/icc`

458.sjeng: `/opt/intel/Compiler/11.0/081/bin/intel64/icc`

C++ benchmarks (except as noted below):
`icpc`

473.astar: `/opt/intel/Compiler/11.0/081/bin/intel64/icpc`

Peak Portability Flags

400.perlbench: `-DSPEC_CPU_LINUX_IA32`
401.bzip2: `-DSPEC_CPU_LP64`
456.hmmer: `-DSPEC_CPU_LP64`
458.sjeng: `-DSPEC_CPU_LP64`

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Peak Portability Flags (Continued)

```
    462.libquantum: -DSPEC_CPU_LINUX
         473.astar: -DSPEC_CPU_LP64
      483.xalancbmk: -DSPEC_CPU_LINUX
```

Peak Optimization Flags

C benchmarks:

```
     400.perlbench: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                    -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
                    -prof-use(pass 2) -ansi-alias -opt-prefetch

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

           403.gcc: basepeak = yes

           429.mcf: basepeak = yes

         445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -O2
                    -ipo -no-prec-div -ansi-alias

        456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2
                    -ansi-alias -auto-ilp32

         458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                    -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)
                    -prof-use(pass 2) -unroll4 -auto-ilp32

    462.libquantum: -xSSE4.2 -ipo -O3 -no-prec-div -static
                    -opt-malloc-options=3 -opt-prefetch

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

C++ benchmarks:

```
       471.omnetpp: basepeak = yes

         473.astar: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                    -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
                    -ansi-alias -opt-ra-region-strategy=routine -auto-ilp32
                    -Wl,-z,muldefs -L/opt/SmartHeap_8.1/lib64 -lsmartheap64

      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

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

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