SPEC® CINT2006 Result
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NEC Corporation

Express5800/B120a
(Intel Xeon E5504)

$SPECint^{®}\_rate2006 =$ 69.4

$SPECint\_rate\_base2006 =$ 64.9

Copies

- 400.perlbench: 4 / 69.6 ; 4 / 59.9
- 401.bzip2: 4 / 37.9 ; 4 / 36.4
- 403.gcc: 4 / 54.6
- 429.mcf: 4 / 87.1
- 445.gobmk: 4 / 62.2 ; 4 / 57.7
- 456.hmmer: 4 / 76.0 ; 4 / 56.1
- 458.sjeng: 4 / 64.7 ; 4 / 60.1
- 462.libquantum: 4 / 231 ; 4 / 231
- 464.h264ref: 4 / 95.8 ; 4 / 90.5
- 471.omnetpp: 4 / 46.1
- 473.astar: 4 / 42.0 ; 4 / 37.9
- 483.xalancbmk: 4 / 75.6

SPECint_rate_base2006 = 64.9

SPECint_rate2006 = 69.4

Hardware

CPU Name:	Intel Xeon E5504
CPU Characteristics:	
CPU MHz:	2000
FPU:	Integrated
CPU(s) enabled:	4 cores, 1 chip, 4 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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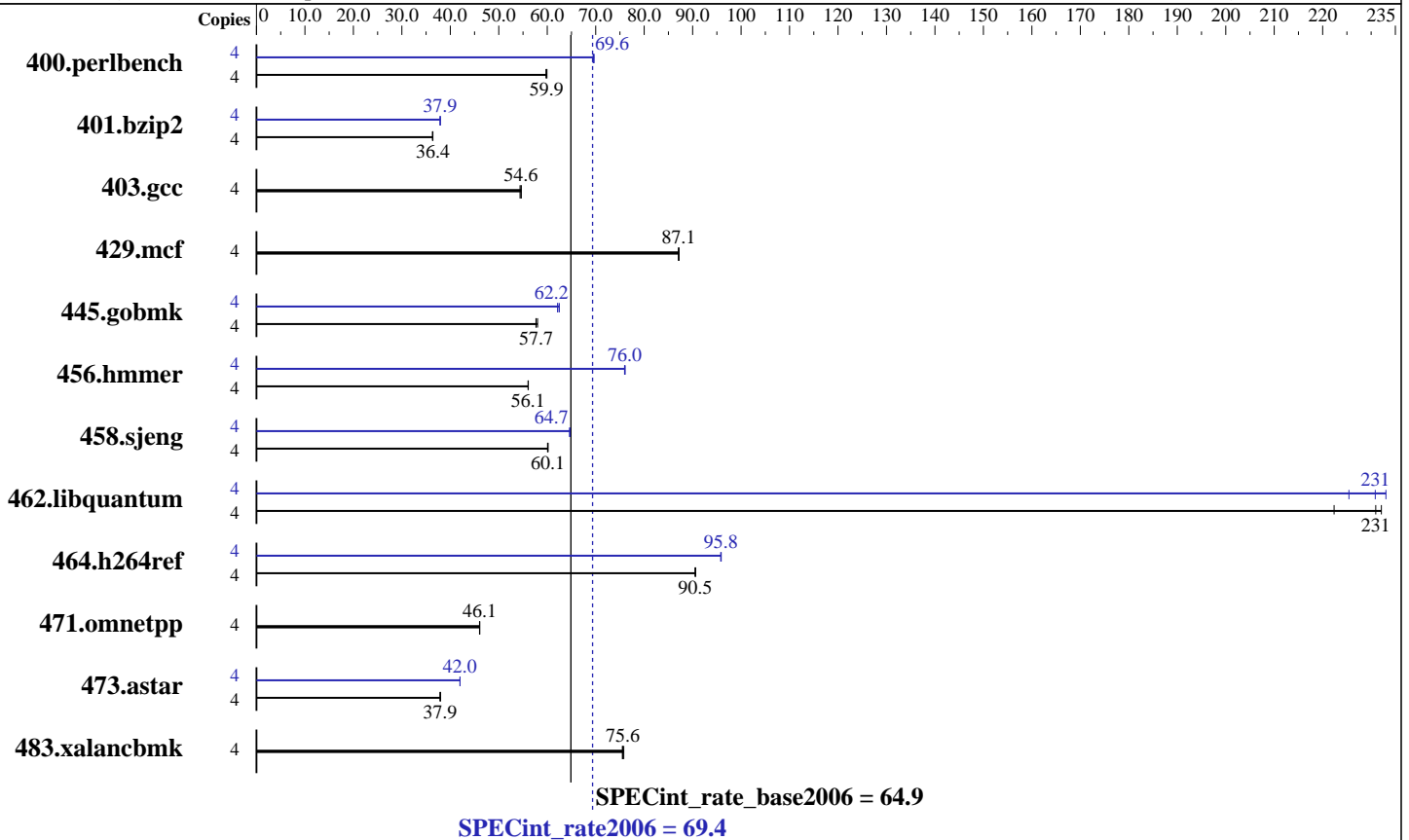
SPECint_rate_base2006 = 64.9

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

Test date: Aug-2009
Hardware Availability: Jul-2009
Software Availability: Feb-2009

Results Table

Benchmark	Copies	Base Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Peak Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	4	652	59.9	654	59.7	**653**	**59.9**	4	561	69.7	**562**	**69.6**	563	69.5
401.bzip2	4	1060	36.4	1063	36.3	**1061**	**36.4**	4	**1018**	**37.9**	1019	37.9	1017	37.9
403.gcc	4	592	54.4	589	54.6	**590**	**54.6**	4	592	54.4	589	54.6	**590**	**54.6**
429.mcf	4	418	87.2	**419**	**87.1**	419	87.1	4	418	87.2	**419**	**87.1**	419	87.1
445.gobmk	4	**727**	**57.7**	728	57.7	723	58.0	4	671	62.5	**675**	**62.2**	675	62.2
456.hmmer	4	**666**	**56.1**	666	56.0	665	56.1	4	**491**	**76.0**	491	76.0	491	76.1
458.sjeng	4	804	60.2	**805**	**60.1**	806	60.1	4	748	64.7	**748**	**64.7**	749	64.6
462.libquantum	4	**359**	**231**	373	222	357	232	4	**359**	**231**	356	233	368	225
464.h264ref	4	978	90.5	**978**	**90.5**	977	90.6	4	924	95.8	923	95.9	**924**	**95.8**
471.omnetpp	4	**543**	**46.1**	543	46.0	543	46.1	4	**543**	**46.1**	543	46.0	543	46.1
473.astar	4	739	38.0	742	37.9	**740**	**37.9**	4	668	42.0	669	42.0	**668**	**42.0**
483.xalancbmk	4	364	75.8	366	75.5	**365**	**75.6**	4	364	75.8	366	75.5	**365**	**75.6**

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

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

Tested with SPEC CPU2006 v1.1.
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