SPEC® CINT2006 Result
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NEC Corporation

Express5800/120Ei
(Intel Xeon X5450)

$SPECint^®\_rate2006 =$ 66.7

SPECint_rate_base2006 = 57.3

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SPECint_rate2006 = 66.7

Benchmark	Copies	Result
400.perlbench	4	86.9
400.perlbench	4	72.5
401.bzip2	4	59.0
401.bzip2	4	55.9
403.gcc	4	50.7
403.gcc	4	50.9
429.mcf	4	47.5
429.mcf	4	47.6
445.gobmk	4	79.9
445.gobmk	4	75.1
456.hmmer	4	105
456.hmmer	4	62.6
458.sjeng	4	77.7
458.sjeng	4	70.4
462.libquantum	1	56.9
462.libquantum	4	26.6
464.h264ref	4	132
464.h264ref	4	126
471.omnetpp	4	39.2
471.omnetpp	4	37.8
473.astar	4	46.5
473.astar	4	43.2
483.xalancbmk	4	70.2

Hardware

CPU Name: Intel Xeon X5450
CPU Characteristics: 3.00 GHz, 2x6 MB L2 shared, 1333 MHz bus
CPU MHz: 3000
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: 12 MB I+D on chip per chip, 6 MB shared / 2 cores
L3 Cache: None
Other Cache: None
Memory: 8 GB (8x1 GB PC2-5300F, 2 rank, CL5-5-5, ECC)
Disk Subsystem: 1x250 GB SATAII, 7200RPM
Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 10 (x86_64) SP1, Kernel 2.6.16.46-0.12-smp
Compiler: Intel C++ Compiler 10.1 for Linux Build 20070913 Package ID: l_cc_p_10.1.008
Auto Parallel: Yes
File System: ext2
System State: Run level 3 (multi-user)
Base Pointers: 32-bit
Peak Pointers: 32/64-bit
Other Software: MicroQuill SmartHeap library 8.1 binutils 2.17

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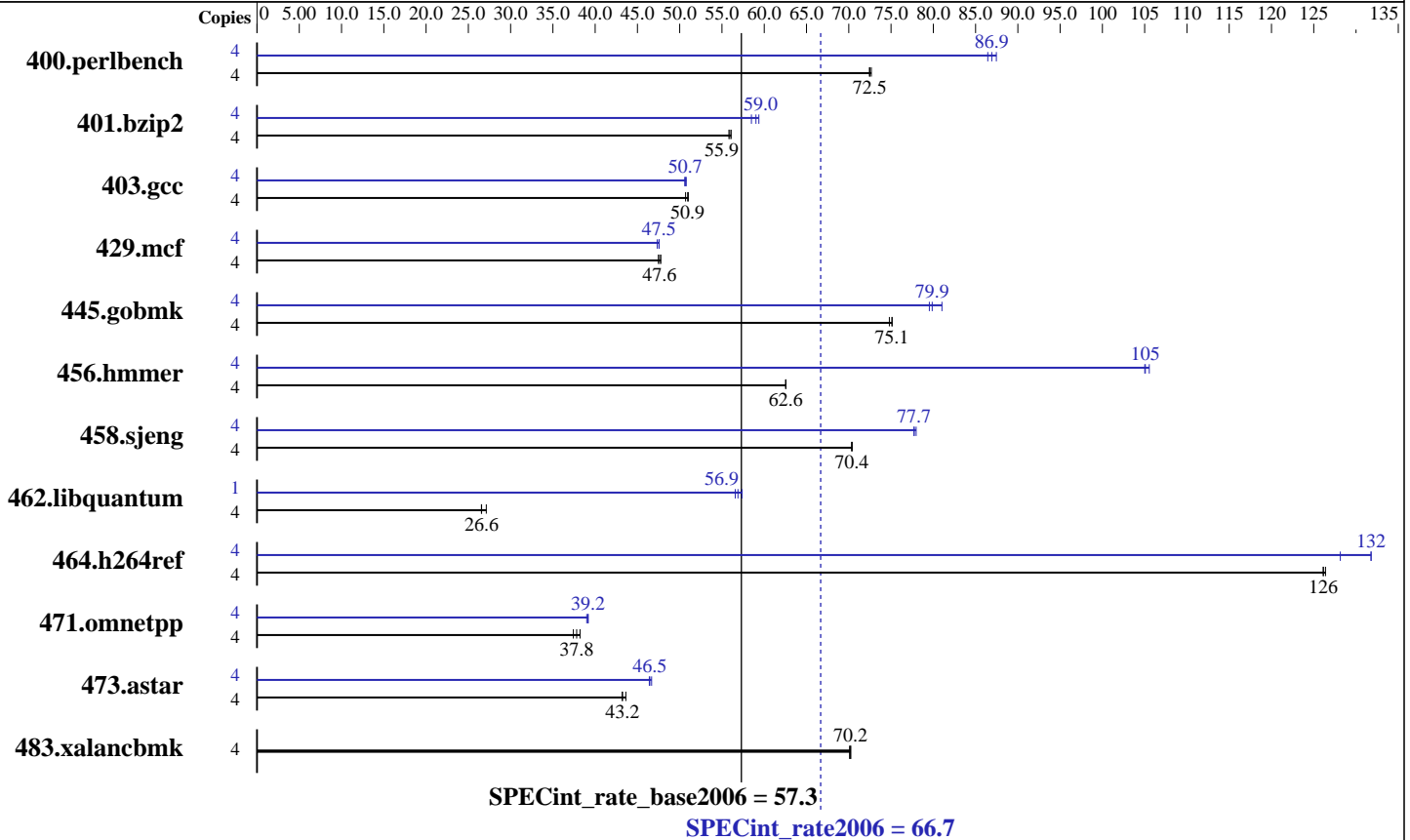
SPECint_rate_base2006 = 57.3

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

Test date: Jun-2008
Hardware Availability: Apr-2008
Software Availability: Nov-2007

Results Table

Benchmark	Base Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	4	539	72.4	538	72.7	**539**	**72.5**	4	452	86.4	447	87.5	**450**	**86.9**
401.bzip2	4	**690**	**55.9**	688	56.1	692	55.8	4	**654**	**59.0**	650	59.4	660	58.5
403.gcc	4	631	51.0	**632**	**50.9**	635	50.7	4	634	50.8	636	50.6	**635**	**50.7**
429.mcf	4	764	47.8	**766**	**47.6**	768	47.5	4	771	47.3	**767**	**47.5**	767	47.6
445.gobmk	4	558	75.1	**559**	**75.1**	561	74.8	4	518	81.0	528	79.5	**525**	**79.9**
456.hmmer	4	597	62.6	597	62.6	**597**	**62.6**	4	354	106	**355**	**105**	355	105
458.sjeng	4	**688**	**70.4**	688	70.4	688	70.3	4	**623**	**77.7**	621	78.0	623	77.7
462.libquantum	4	3056	27.1	**3120**	**26.6**	3122	26.5	1	366	56.6	361	57.4	**364**	**56.9**
464.h264ref	4	**702**	**126**	700	126	702	126	4	691	128	672	132	**672**	**132**
471.omnetpp	4	654	38.2	668	37.4	**661**	**37.8**	4	641	39.0	638	39.2	**639**	**39.2**
473.astar	4	644	43.6	650	43.2	**649**	**43.2**	4	605	46.4	602	46.7	**604**	**46.5**
483.xalancbmk	4	394	70.1	393	70.2	**393**	**70.2**	4	394	70.1	393	70.2	**393**	**70.2**

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

Platform Notes

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

General Notes

All benchmarks compiled in 32-bit mode except 401.bzip2,
456.hmmer, for peak, are compiled in 64-bit mode

Base Compiler Invocation

C benchmarks:
    icc

C++ benchmarks:
    icpc

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Base Portability Flags

```
    400.perlbench: -DSPEC_CPU_LINUX_IA32
   462.libquantum: -DSPEC_CPU_LINUX
   483.xalancbmk: -DSPEC_CPU_LINUX
```

Base Optimization Flags

C benchmarks:

```
    -fast -inline-calloc -opt-malloc-options=3
```

C++ benchmarks:

```
    -xT -ipo -O3 -no-prec-div -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/cce/10.1.008/bin/icc
            -L/opt/intel/cce/10.1.008/lib
            -I/opt/intel/cce/10.1.008/include
```

```
     456.hmmer: /opt/intel/cce/10.1.008/bin/icc
            -L/opt/intel/cce/10.1.008/lib
            -I/opt/intel/cce/10.1.008/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) -fast -ansi-alias
-prefetch

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch

403.gcc: -fast -inline-calloc -opt-malloc-options=3

429.mcf: -fast -prefetch

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

456.hmmer: -fast -unroll2 -ansi-alias -opt-multi-version-aggressive

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4

462.libquantum: -fast -unroll4 -Ob0 -prefetch
-opt-streaming-stores always -vec-guard-write
-opt-malloc-options=3 -parallel -par-runtime-control

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-ansi-alias

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo
-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) -xT -O3 -ipo
-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:

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Peak Other Flags (Continued)

403.gcc: `-Dalloca=_alloca`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/NEC-Intel-ic10.1-INT-ia32-linux-flags.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/NEC-Intel-ic10.1-INT-ia32-linux-flags.xml`

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

Tested with SPEC CPU2006 v1.0.
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