# SPEC® CINT2006 Result
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## NEC Corporation

Express5800/120Bb-6
(Intel Xeon E5205)

SPECint®2006 = 16.7

SPECint_base2006 = 14.0

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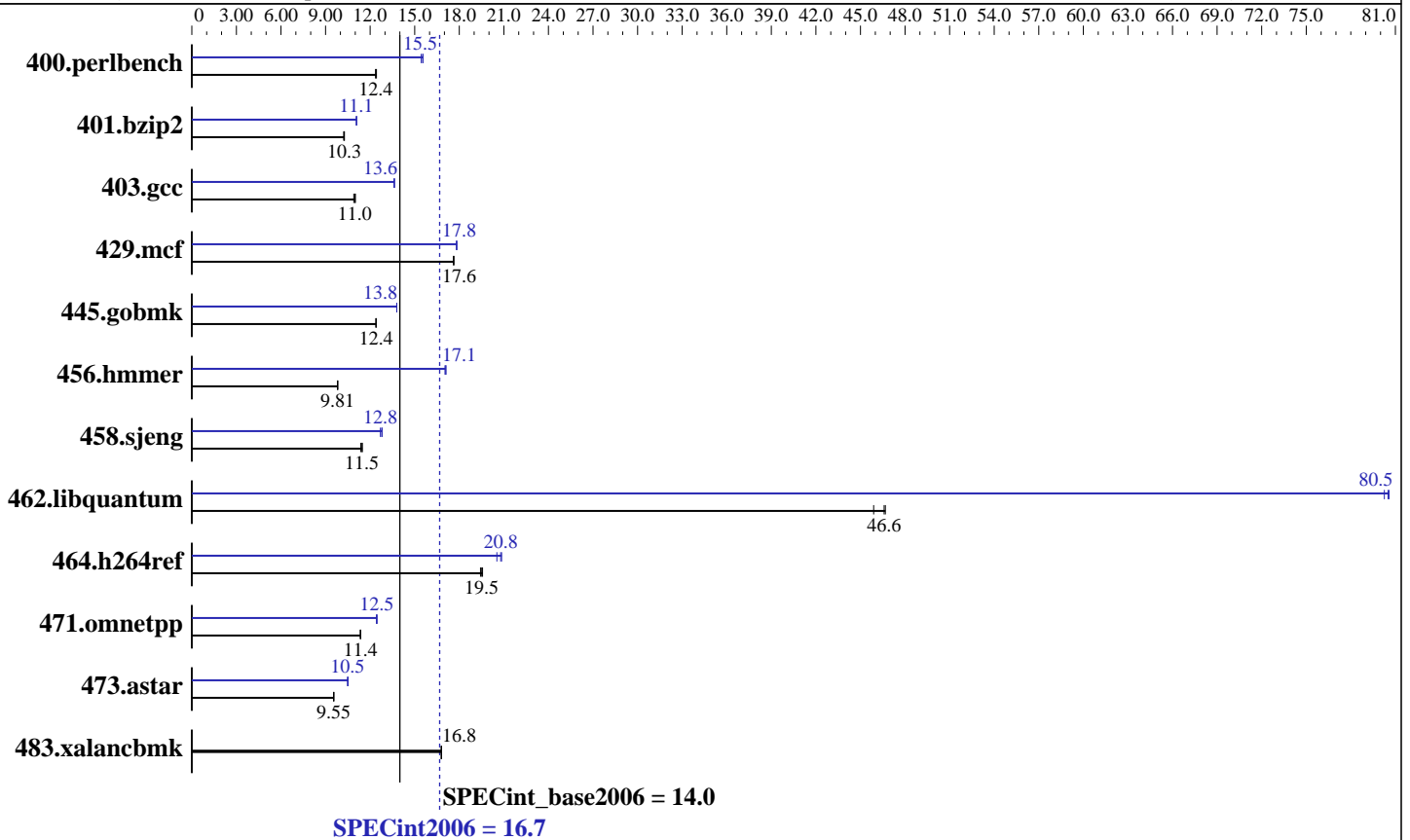**Test sponsor:** NEC Corporation
**Tested by:** NEC Corporation

**Test date:** Feb-2008
**Hardware Availability:** Feb-2008
**Software Availability:** Nov-2007



SPECint_base2006 = 14.0

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## Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon E5205 |
| CPU Characteristics: | 1.86 GHz, 6 MB L2, 1066 MHz bus |
| CPU MHz: | 1867 |
| FPU: | Integrated |
| CPU(s) enabled: | 4 cores, 2 chips, 2 cores/chip |
| CPU(s) orderable: | 1,2 chips |
| Primary Cache: | 32 KB I + 32 KB D on chip per core |
| Secondary Cache: | 6 MB I+D on chip per chip |
| L3 Cache: | None |
| Other Cache: | None |
| Memory: | 8 GB (4x2 GB PC2-5300F, 2 rank, CL5-5-5, ECC) |
| Disk Subsystem: | 1x73.2 GB SAS, 10000RPM |
| 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 for Linux32 and Linux64 version 10.1 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.tar.gz, Version 2.17 |

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## Results Table

| Benchmark | Base | | | | | | Peak | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Seconds** | **Ratio** | **Seconds** | **Ratio** | **Seconds** | **Ratio** | **Seconds** | **Ratio** | **Seconds** | **Ratio** | **Seconds** | **Ratio** |
| 400.perlbench | **789** | **12.4** | 790 | 12.4 | 786 | 12.4 | 633 | 15.4 | **628** | **15.5** | 628 | 15.6 |
| 401.bzip2 | 944 | 10.2 | 940 | 10.3 | **941** | **10.3** | **871** | **11.1** | 871 | 11.1 | 871 | 11.1 |
| 403.gcc | **734** | **11.0** | 738 | 10.9 | 731 | 11.0 | **591** | **13.6** | 591 | 13.6 | 590 | 13.6 |
| 429.mcf | 517 | 17.6 | 518 | 17.6 | **517** | **17.6** | **512** | **17.8** | 512 | 17.8 | 511 | 17.8 |
| 445.gobmk | 846 | 12.4 | **846** | **12.4** | 846 | 12.4 | 760 | 13.8 | 761 | 13.8 | **760** | **13.8** |
| 456.hmmer | **951** | **9.81** | 950 | 9.82 | 951 | 9.81 | 545 | 17.1 | 548 | 17.0 | **546** | **17.1** |
| 458.sjeng | 1064 | 11.4 | **1056** | **11.5** | 1055 | 11.5 | 945 | 12.8 | **946** | **12.8** | 954 | 12.7 |
| 462.libquantum | 444 | 46.7 | **445** | **46.6** | 452 | 45.9 | **257** | **80.5** | 257 | 80.6 | 258 | 80.3 |
| 464.h264ref | **1134** | **19.5** | 1139 | 19.4 | 1131 | 19.6 | 1078 | 20.5 | **1065** | **20.8** | 1061 | 20.8 |
| 471.omnetpp | 550 | 11.4 | **550** | **11.4** | 551 | 11.3 | 503 | 12.4 | **502** | **12.5** | 502 | 12.5 |
| 473.astar | 736 | 9.54 | **735** | **9.55** | 734 | 9.56 | 668 | 10.5 | 670 | 10.5 | **669** | **10.5** |
| 483.xalancbmk | **411** | **16.8** | 411 | 16.8 | 411 | 16.8 | **411** | **16.8** | 411 | 16.8 | 411 | 16.8 |

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

## General Notes

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

## Base Compiler Invocation

C benchmarks:
     icc

C++ benchmarks:
     icpc

## Base Portability Flags

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

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## Base Optimization Flags

C benchmarks:
```
-fast -vec-guard-write -parallel -par-runtime-control
```

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
483.xalancbmk: -DSPEC_CPU_LINUX
```

## Peak Optimization Flags

C benchmarks:

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# Peak Optimization Flags (Continued)

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`
`-auto-ilp32`

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`
`-auto-ilp32`

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:

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.20090714.00.html

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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.20090714.00.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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