# SPEC® CINT2006 Result
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## NEC Corporation

Express5800/110Rh-1
(Intel Xeon processor 3060)

SPECint®2006 = 18.2

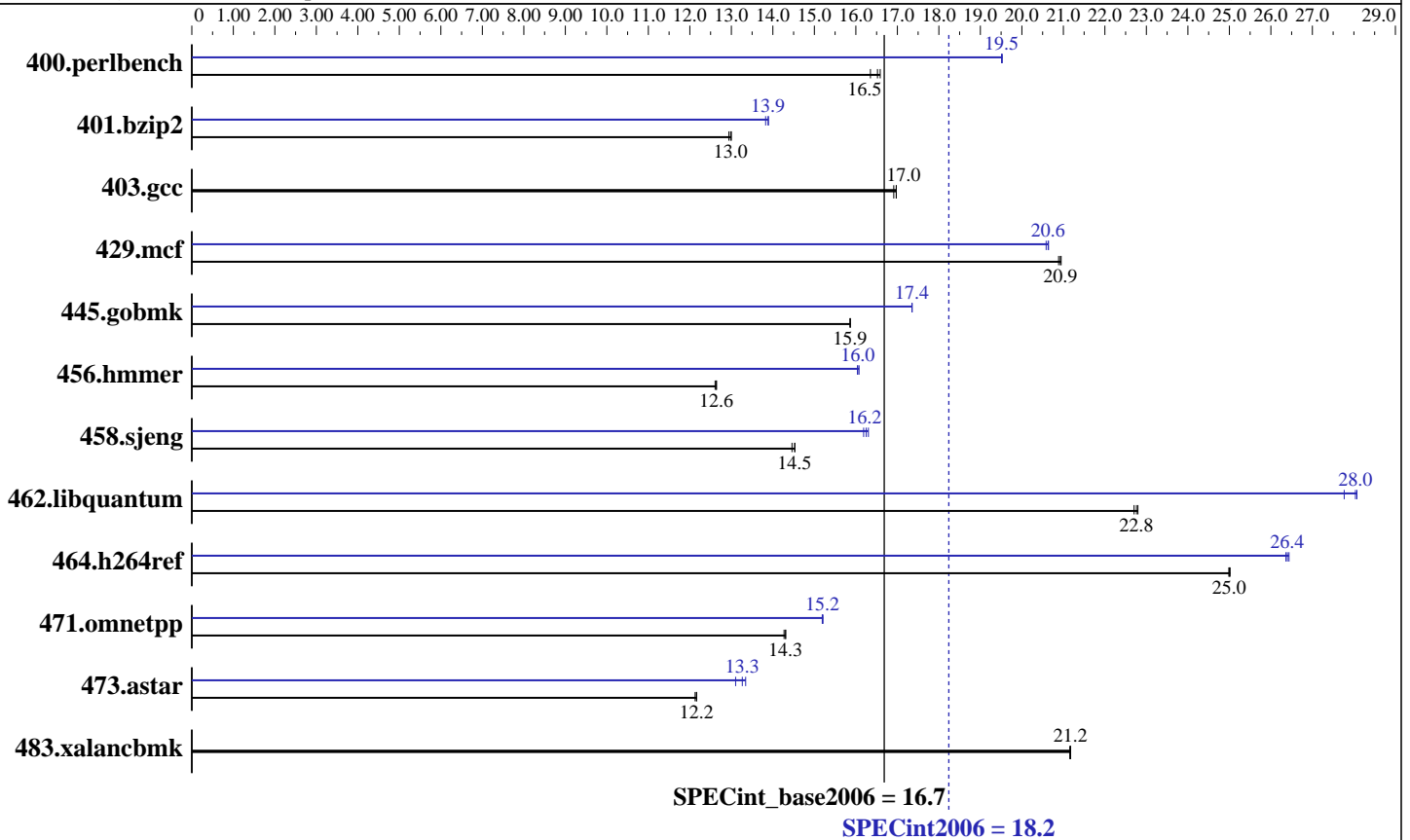SPECint_base2006 = 16.7

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

**Test date:** Nov-2007
**Hardware Availability:** Nov-2006
**Software Availability:** Jun-2007



| | |
|---|---|
| 400.perlbench | 19.5 / 16.5 |
| 401.bzip2 | 13.9 / 13.0 |
| 403.gcc | 17.0 |
| 429.mcf | 20.6 / 20.9 |
| 445.gobmk | 17.4 / 15.9 |
| 456.hmmer | 16.0 / 12.6 |
| 458.sjeng | 16.2 / 14.5 |
| 462.libquantum | 28.0 / 22.8 |
| 464.h264ref | 26.4 / 25.0 |
| 471.omnetpp | 15.2 / 14.3 |
| 473.astar | 13.3 / 12.2 |
| 483.xalancbmk | 21.2 |

SPECint_base2006 = 16.7

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## Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon 3060 |
| CPU Characteristics: | 2.40 GHz, 4 MB L2, 1066 MHz bus |
| CPU MHz: | 2400 |
| 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: | 4 MB I+D on chip per chip |
| L3 Cache: | None |
| Other Cache: | None |
| Memory: | 4 GB (4x1 GB PC2-5300E, 2 rank, CL5-5-5, ECC) |
| Disk Subsystem: | 1x80 GB SATAII, 7200RPM |
| Other Hardware: | None |

## Software

| | |
|---|---|
| Operating System: | SUSE Linux Enterprise Server 10 (x86_64), Kernel 2.6.16.21-0.8-smp |
| Compiler: | Intel C++ Compiler for Linux32 and Linux64 version 10.0 Build 20070426 Package ID: l_cc_p_10.0.023 |
| Auto Parallel: | No |
| File System: | ext2 |
| System State: | Multiuser, Runlevel 3 |
| 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 | 589 | 16.6 | **591** | **16.5** | 598 | 16.4 | 501 | 19.5 | **501** | **19.5** | 500 | 19.5 |
| 401.bzip2 | **743** | **13.0** | 742 | 13.0 | 746 | 12.9 | 698 | 13.8 | 695 | 13.9 | **695** | **13.9** |
| 403.gcc | 476 | 16.9 | **474** | **17.0** | 474 | 17.0 | 476 | 16.9 | **474** | **17.0** | 474 | 17.0 |
| 429.mcf | **436** | **20.9** | 437 | 20.9 | 435 | 20.9 | 443 | 20.6 | **442** | **20.6** | 442 | 20.6 |
| 445.gobmk | 661 | 15.9 | **661** | **15.9** | 661 | 15.9 | 605 | 17.4 | **605** | **17.4** | 604 | 17.4 |
| 456.hmmer | 740 | 12.6 | 738 | 12.6 | **738** | **12.6** | 580 | 16.1 | 582 | 16.0 | **581** | **16.0** |
| 458.sjeng | 833 | 14.5 | **833** | **14.5** | 837 | 14.5 | 742 | 16.3 | **745** | **16.2** | 747 | 16.2 |
| 462.libquantum | 909 | 22.8 | **910** | **22.8** | 913 | 22.7 | **739** | **28.0** | 738 | 28.1 | 746 | 27.8 |
| 464.h264ref | **885** | **25.0** | 885 | 25.0 | 886 | 25.0 | **838** | **26.4** | 839 | 26.4 | 837 | 26.4 |
| 471.omnetpp | **437** | **14.3** | 437 | 14.3 | 438 | 14.3 | 411 | 15.2 | 411 | 15.2 | **411** | **15.2** |
| 473.astar | 579 | 12.1 | **577** | **12.2** | 577 | 12.2 | 526 | 13.3 | **529** | **13.3** | 536 | 13.1 |
| 483.xalancbmk | **326** | **21.2** | 326 | 21.2 | 326 | 21.2 | **326** | **21.2** | 326 | 21.2 | 326 | 21.2 |

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

## 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
```

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/10.0.023/bin/icc
               -L/opt/intel/cce/10.0.023/lib
               -I/opt/intel/cce/10.0.023/include

    456.hmmer: /opt/intel/cce/10.0.023/bin/icc
               -L/opt/intel/cce/10.0.023/lib
               -I/opt/intel/cce/10.0.023/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`

403.gcc: `basepeak = yes`

429.mcf: `-fast -prefetch`

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

456.hmmer: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -unroll2`
`-ansi-alias`

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

462.libquantum: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -unroll4 -Ob0`
`-prefetch -opt-streaming-stores always`

464.h264ref: `Same as 456.hmmer`

C++ benchmarks:

471.omnetpp: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xT -O3 -ipo`
`-no-prec_div -ansi-alias -Wl,-z,muldefs`
`-L/opt/SmartHeap_8.1/lib -lsmartheap`

473.astar: `Same as 471.omnetpp`

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-ic10-INT-ia32-intel64-linux-flags.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/NEC-ic10-INT-ia32-intel64-linux-flags.xml

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

Tested with SPEC CPU2006 v1.0.
Report generated on Tue Jul 22 15:20:07 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 8 January 2008.