# SPEC® CINT2006 Result

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## NEC Corporation

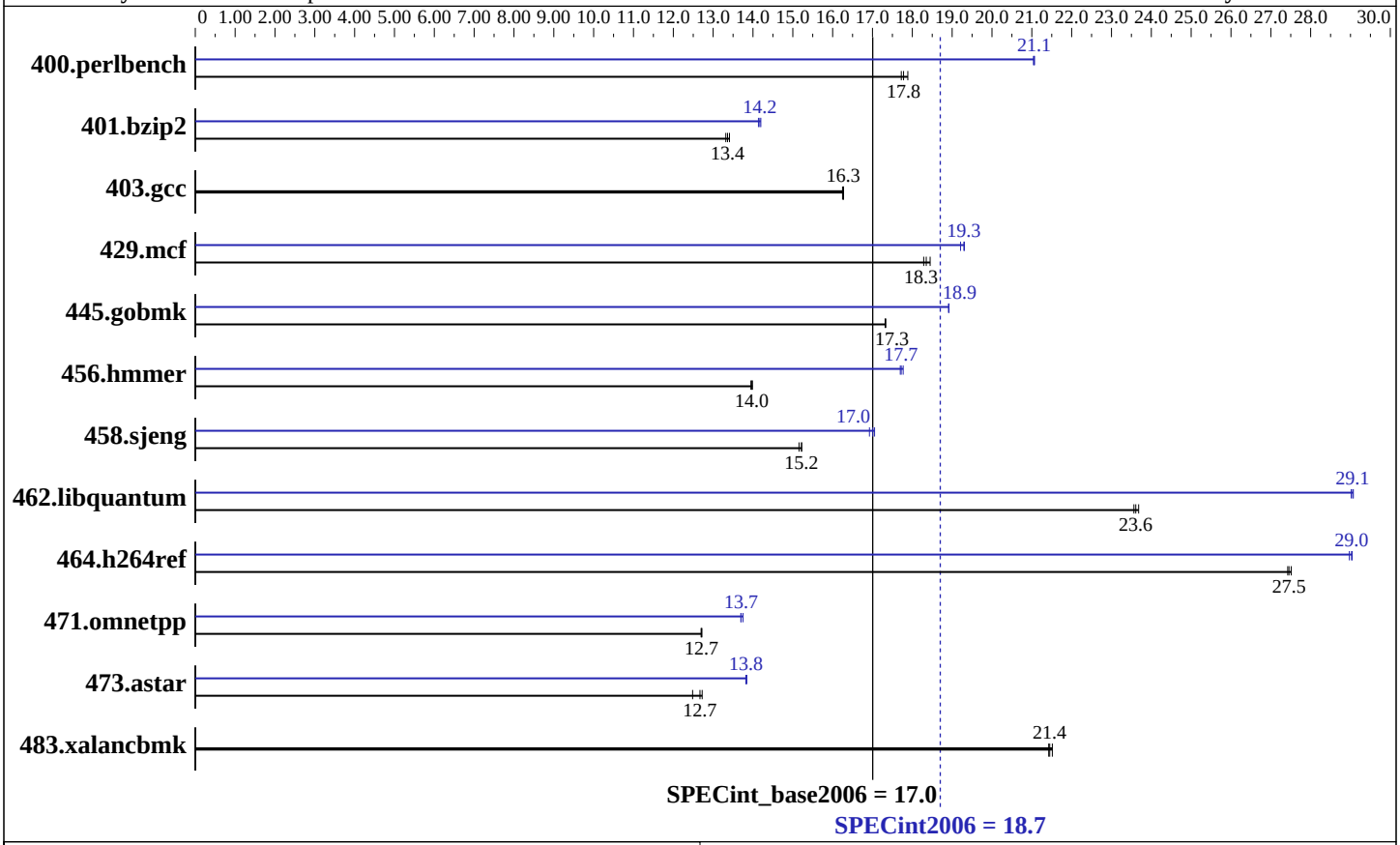
Express5800/120Bb-m6
(Intel Xeon processor X5355)

SPECint®2006 = 18.7

SPECint_base2006 = 17.0

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

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




### Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon X5355 |
| CPU Characteristics: | 2.66 GHz, 2x4 MB L2 shared, 1333 MHz bus |
| CPU MHz: | 2666 |
| FPU: | Integrated |
| CPU(s) enabled: | 8 cores, 2 chips, 4 cores/chip |
| CPU(s) orderable: | 1,2 chips |
| Primary Cache: | 32 KB I + 32 KB D on chip per core |
| Secondary Cache: | 8 MB I+D on chip per chip, 4 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: | 1x73.2 GB SAS, 10000RPM |
| 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<br>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 | 551 | 17.7 | **549** | **17.8** | 546 | 17.9 | **464** | **21.1** | 464 | 21.0 | 464 | 21.1 |
| 401.bzip2 | 720 | 13.4 | 725 | 13.3 | **722** | **13.4** | 680 | 14.2 | 683 | 14.1 | **681** | **14.2** |
| 403.gcc | **495** | **16.3** | 495 | 16.2 | 495 | 16.3 | **495** | **16.3** | 495 | 16.2 | 495 | 16.3 |
| 429.mcf | 494 | 18.4 | **497** | **18.3** | 499 | 18.3 | 472 | 19.3 | 475 | 19.2 | **473** | **19.3** |
| 445.gobmk | **605** | **17.3** | 606 | 17.3 | 605 | 17.3 | 554 | 18.9 | 555 | 18.9 | **555** | **18.9** |
| 456.hmmer | **668** | **14.0** | 669 | 13.9 | 667 | 14.0 | 527 | 17.7 | **526** | **17.7** | 525 | 17.8 |
| 458.sjeng | 795 | 15.2 | 798 | 15.2 | **795** | **15.2** | **712** | **17.0** | 715 | 16.9 | 710 | 17.1 |
| 462.libquantum | 879 | 23.6 | 875 | 23.7 | **878** | **23.6** | 713 | 29.1 | 714 | 29.0 | **713** | **29.1** |
| 464.h264ref | 804 | 27.5 | **806** | **27.5** | 807 | 27.4 | 762 | 29.0 | **762** | **29.0** | 764 | 29.0 |
| 471.omnetpp | 492 | 12.7 | **492** | **12.7** | 492 | 12.7 | 456 | 13.7 | 455 | 13.8 | **456** | **13.7** |
| 473.astar | **554** | **12.7** | 562 | 12.5 | 552 | 12.7 | 507 | 13.8 | **508** | **13.8** | 508 | 13.8 |
| 483.xalancbmk | 322 | 21.4 | 321 | 21.5 | **322** | **21.4** | 322 | 21.4 | 321 | 21.5 | **322** | **21.4** |

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

## 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:

Continued on next page

## 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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