# SPEC® CINT2006 Result
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## IBM Corporation

SPECint®_rate2006 = 47.8

## IBM System x3650 (Intel Xeon 5130)

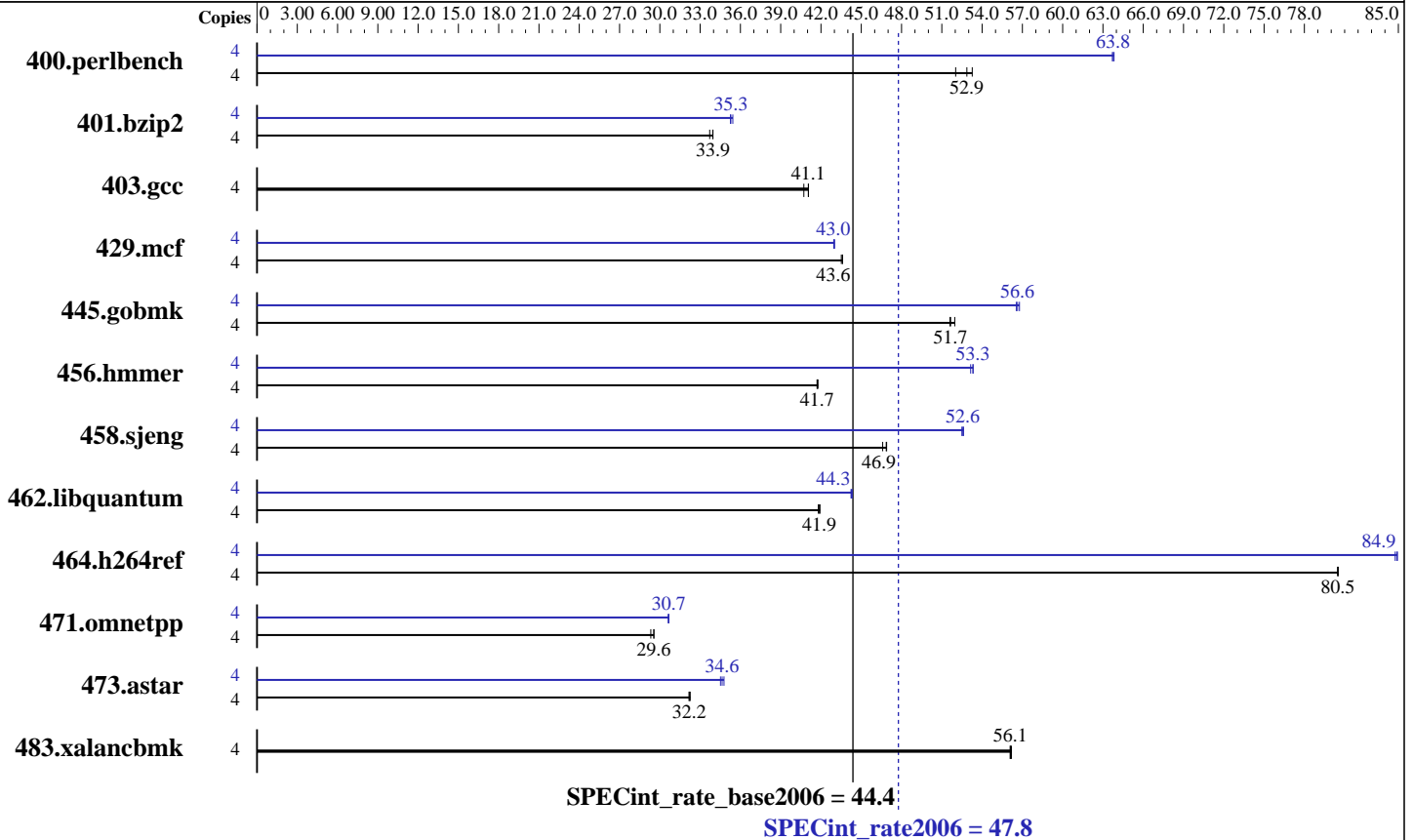SPECint_rate_base2006 = 44.4

**CPU2006 license:** 11　　　　　　　　　　　　　　　　　　　　　　　　**Test date:** Jul-2007
**Test sponsor:** IBM Corporation　　　　　　　　　　　　　　　　**Hardware Availability:** Jul-2006
**Tested by:** IBM Corporation　　　　　　　　　　　　　　　　　**Software Availability:** Jul-2007

**Copies** 0  3.00 6.00 9.00 12.0 15.0 18.0 21.0 24.0 27.0 30.0 33.0 36.0 39.0 42.0 45.0 48.0 51.0 54.0 57.0 60.0 63.0 66.0 69.0 72.0 75.0 78.0   85.0

| Benchmark | Copies | Peak | Base |
|---|---|---|---|
| 400.perlbench | 4 / 4 | 63.8 | 52.9 |
| 401.bzip2 | 4 / 4 | 35.3 | 33.9 |
| 403.gcc | 4 | | 41.1 |
| 429.mcf | 4 / 4 | 43.0 | 43.6 |
| 445.gobmk | 4 / 4 | 56.6 | 51.7 |
| 456.hmmer | 4 / 4 | 53.3 | 41.7 |
| 458.sjeng | 4 / 4 | 52.6 | 46.9 |
| 462.libquantum | 4 / 4 | 44.3 | 41.9 |
| 464.h264ref | 4 / 4 | 84.9 | 80.5 |
| 471.omnetpp | 4 / 4 | 30.7 | 29.6 |
| 473.astar | 4 / 4 | 34.6 | 32.2 |
| 483.xalancbmk | 4 | | 56.1 |

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## Hardware

CPU Name: Intel Xeon 5130
CPU Characteristics: 1333MHz system bus
CPU MHz: 2000
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: 4 MB I+D on chip per chip
L3 Cache: None
Other Cache: None
Memory: 16 GB (8 x 2 GB DDR2-5300F ECC)
Disk Subsystem: 1 x 36 GB SAS, 15000 RPM
Other Hardware: None

## Software

Operating System: SLES 10 (x86_64), 2.6.16.21-0.8-smp
Compiler: Intel C++ Compiler for Linux version 10.0
Build 20070426 Package ID: l_cc_p_10.0.023
Auto Parallel: No
File System: ReiserFS
System State: Multi-user, run level 3
Base Pointers: 32-bit
Peak Pointers: 32/64-bit
Other Software: MicroQuill SmartHeap 8.1

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## Results Table

| Benchmark | Base | | | | | | Peak | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 400.perlbench | 4 | 734 | 53.3 | **739** | **52.9** | 751 | 52.0 | 4 | 613 | 63.7 | **613** | **63.8** | 612 | 63.8 |
| 401.bzip2 | 4 | 1137 | 34.0 | **1137** | **33.9** | 1145 | 33.7 | 4 | **1094** | **35.3** | 1089 | 35.4 | 1095 | 35.3 |
| 403.gcc | 4 | 784 | 41.1 | 791 | 40.7 | **784** | **41.1** | 4 | 784 | 41.1 | 791 | 40.7 | **784** | **41.1** |
| 429.mcf | 4 | 837 | 43.6 | 838 | 43.5 | **837** | **43.6** | 4 | **849** | **43.0** | 849 | 43.0 | 848 | 43.0 |
| 445.gobmk | 4 | 813 | 51.6 | **812** | **51.7** | 807 | 52.0 | 4 | 739 | 56.8 | **741** | **56.6** | 742 | 56.5 |
| 456.hmmer | 4 | 893 | 41.8 | **895** | **41.7** | 895 | 41.7 | 4 | 702 | 53.1 | 700 | 53.3 | **700** | **53.3** |
| 458.sjeng | 4 | 1039 | 46.6 | 1032 | 46.9 | **1033** | **46.9** | 4 | **921** | **52.6** | 922 | 52.5 | 920 | 52.6 |
| 462.libquantum | 4 | 1977 | 41.9 | 1983 | 41.8 | **1979** | **41.9** | 4 | **1873** | **44.3** | 1873 | 44.2 | 1870 | 44.3 |
| 464.h264ref | 4 | 1099 | 80.5 | 1100 | 80.5 | **1100** | **80.5** | 4 | 1042 | 84.9 | 1044 | 84.8 | **1043** | **84.9** |
| 471.omnetpp | 4 | 852 | 29.3 | **846** | **29.6** | 846 | 29.6 | 4 | **816** | **30.7** | 815 | 30.7 | 816 | 30.6 |
| 473.astar | 4 | **872** | **32.2** | 873 | 32.2 | 870 | 32.3 | 4 | 807 | 34.8 | 814 | 34.5 | **811** | **34.6** |
| 483.xalancbmk | 4 | 491 | 56.2 | **492** | **56.1** | 492 | 56.1 | 4 | 491 | 56.2 | **492** | **56.1** | 492 | 56.1 |

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## General Notes

taskset utility used to bind CPU(s) to processes

## 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

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## Base Optimization Flags (Continued)

C++ benchmarks:
```
-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs
-L/spec/cpu2006.1.0/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:

```
400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -fast -ansi-alias
               -prefetch
```

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| IBM Corporation | SPECint_rate2006 = | 47.8 |
|---|---|---|
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# Peak Optimization Flags (Continued)

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/spec/cpu2006.1.0/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/Intel-ic10-ia32-intel64-linux-flags.20090714.44.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090714.44.xml

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