# SPEC® CINT2006 Result

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## Fujitsu

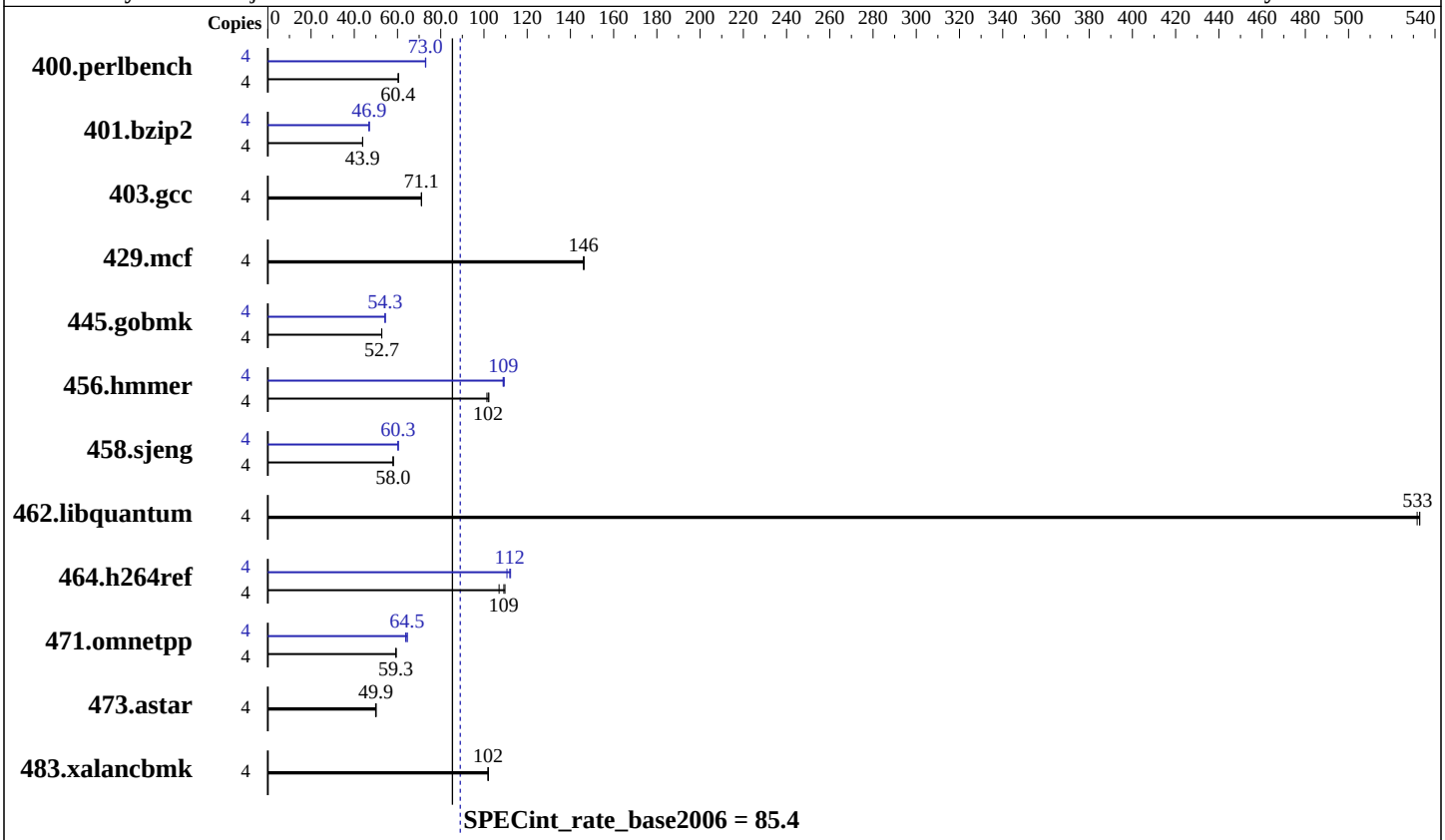
PRIMERGY RX200 S7, Intel Xeon E5-2603, 1.80 GHz

SPECint®_rate2006 = 89.0

SPECint_rate_base2006 = 85.4

**CPU2006 license:** 19
**Test sponsor:** Fujitsu
**Tested by:** Fujitsu

**Test date:** Jan-2012
**Hardware Availability:** Mar-2012
**Software Availability:** Dec-2011




### Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon E5-2603 |
| CPU Characteristics: | |
| CPU MHz: | 1800 |
| 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: | 256 KB I+D on chip per core |
| L3 Cache: | 10 MB I+D on chip per chip |
| Other Cache: | None |
| Memory: | 64 GB (8 x 8 GB 2Rx4 PC3L-12800R-11, ECC, running at 1067 MHz and CL7) |
| Disk Subsystem: | 1 x SATA, 500 GB, 7200 RPM |
| Other Hardware: | None |

### Software

| | |
|---|---|
| Operating System: | Red Hat Enterprise Linux Server release 6.2 (Santiago)<br>2.6.32-220.el6.x86_64 |
| Compiler: | C/C++: Version 12.1.0.225 of Intel C++ Studio XE for Linux |
| Auto Parallel: | No |
| File System: | ext4 |
| System State: | Run level 3 (multi-user) |
| Base Pointers: | 32-bit |
| Peak Pointers: | 32/64-bit |
| Other Software: | Microquill SmartHeap V9.01 |

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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 | **647** | **60.4** | 648 | 60.4 | 646 | 60.5 | 4 | 535 | 73.1 | 536 | 72.9 | **535** | **73.0** |
| 401.bzip2 | 4 | **880** | **43.9** | 879 | 43.9 | 880 | 43.9 | 4 | 824 | 46.8 | 823 | 46.9 | **823** | **46.9** |
| 403.gcc | 4 | 453 | 71.1 | 453 | 71.0 | **453** | **71.1** | 4 | 453 | 71.1 | 453 | 71.0 | **453** | **71.1** |
| 429.mcf | 4 | 249 | 146 | 250 | 146 | **250** | **146** | 4 | 249 | 146 | 250 | 146 | **250** | **146** |
| 445.gobmk | 4 | 796 | 52.7 | **796** | **52.7** | 796 | 52.7 | 4 | 773 | 54.3 | **773** | **54.3** | 773 | 54.3 |
| 456.hmmer | 4 | **366** | **102** | 368 | 101 | 365 | 102 | 4 | 341 | 109 | **342** | **109** | 343 | 109 |
| 458.sjeng | 4 | **834** | **58.0** | 834 | 58.0 | 835 | 58.0 | 4 | 802 | 60.3 | 803 | 60.3 | **803** | **60.3** |
| 462.libquantum | 4 | 156 | 533 | 156 | 532 | **156** | **533** | 4 | 156 | 533 | 156 | 532 | **156** | **533** |
| 464.h264ref | 4 | 827 | 107 | 807 | 110 | **811** | **109** | 4 | 800 | 111 | 788 | 112 | **791** | **112** |
| 471.omnetpp | 4 | 421 | 59.4 | 422 | 59.2 | **422** | **59.3** | 4 | 392 | 63.8 | **388** | **64.5** | 388 | 64.5 |
| 473.astar | 4 | **562** | **49.9** | 563 | 49.9 | 560 | 50.2 | 4 | **562** | **49.9** | 563 | 49.9 | 560 | 50.2 |
| 483.xalancbmk | 4 | 271 | 102 | **271** | **102** | 271 | 102 | 4 | 271 | 102 | **271** | **102** | 271 | 102 |

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

## Submit Notes

```
The numactl mechanism was used to bind copies to processors. The config file option 'submit'
was used to generate numactl commands to bind each copy to a specific processor.
For details, please see the config file.
```

## Operating System Notes

```
Stack size set to unlimited using "ulimit -s unlimited"
```

## General Notes

```
Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/SPECcpu2006/libs/32:/SPECcpu2006/libs/64"

 Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
 memory using RHEL5.5
 Transparent Huge Pages enabled with:
 echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
 runspec command invoked through numactl i.e.:
 numactl --interleave=all runspec <etc>
 For information about Fujitsu please visit: http://www.fujitsu.com
```

## Base Compiler Invocation

C benchmarks:

```
icc  -m32
```

Continued on next page

## Base Compiler Invocation (Continued)

C++ benchmarks:
icpc -m32

## Base Portability Flags

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

## Base Optimization Flags

C benchmarks:
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3

C++ benchmarks:
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3
-Wl,-z,muldefs -L/smartheap -lsmartheap

## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):
icc -m32

400.perlbench: icc -m64

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

C++ benchmarks:
icpc -m32

## Peak Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

## Peak Optimization Flags

C benchmarks:

400.perlbench: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -auto-ilp32

401.bzip2: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -opt-prefetch -auto-ilp32 -ansi-alias

403.gcc: basepeak = yes

429.mcf: basepeak = yes

445.gobmk: -xAVX(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -ansi-alias -opt-mem-layout-trans=3

456.hmmer: -xAVX -ipo -O3 -no-prec-div -unroll2 -auto-ilp32

458.sjeng: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -auto-ilp32

462.libquantum: basepeak = yes

464.h264ref: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs -L/smartheap -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: basepeak = yes

## Peak Other Flags

C benchmarks:

403.gcc: `-Dalloca=_alloca`

The flags files that were used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20120320.html`
`http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.html`

You can also download the XML flags sources by saving the following links:
`http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20120320.xml`
`http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml`


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

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