# SPEC® CINT2006 Result

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## Fujitsu

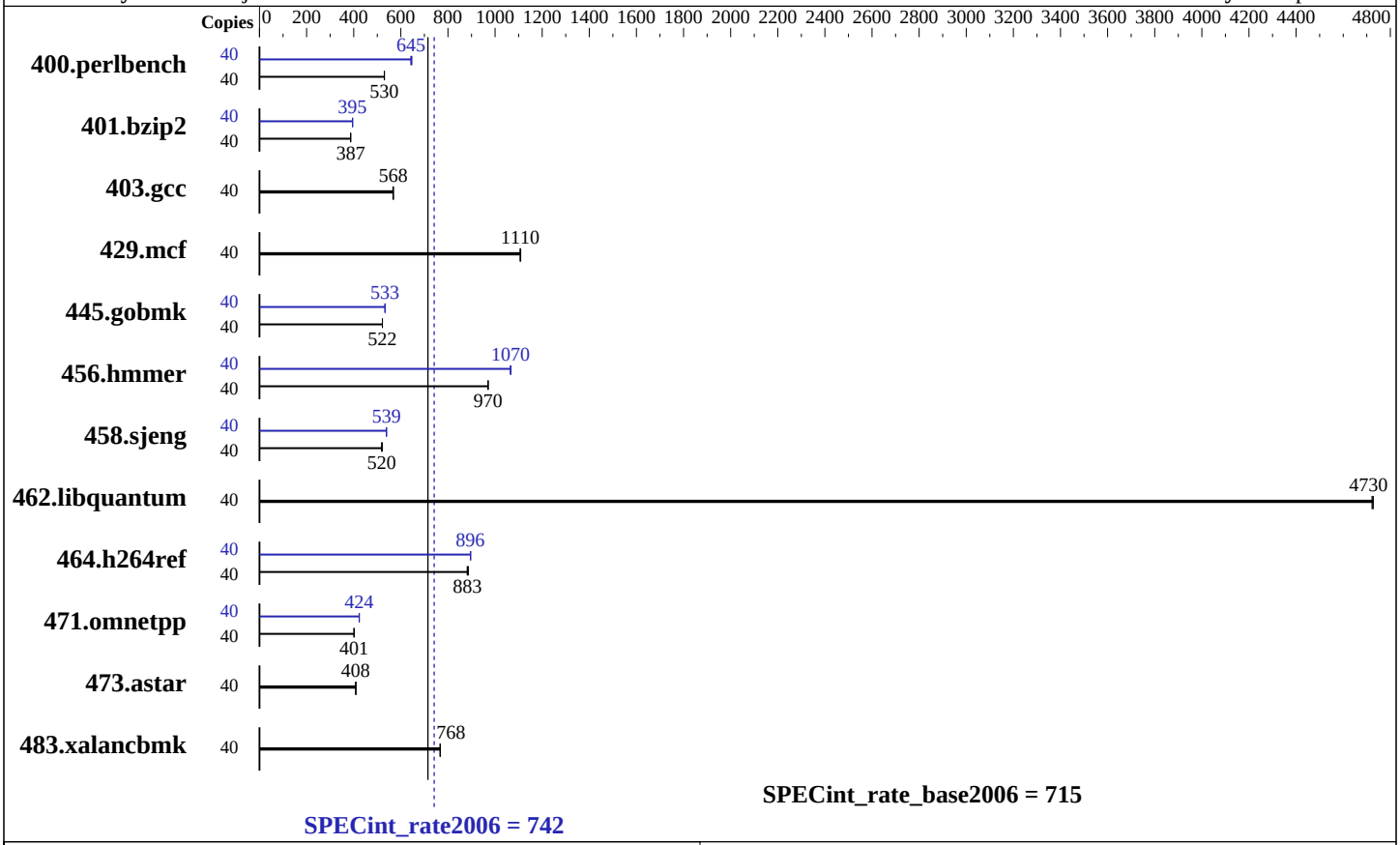
PRIMERGY RX350 S8, Intel Xeon E5-2660 v2, 2.20 GHz

SPECint®_rate2006 = 742

SPECint_rate_base2006 = 715

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

**Test date:** Sep-2013
**Hardware Availability:** Oct-2013
**Software Availability:** Sep-2013




### Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon E5-2660 v2 |
| CPU Characteristics: | Intel Turbo Boost Technology up to 3.00 GHz |
| CPU MHz: | 2200 |
| FPU: | Integrated |
| CPU(s) enabled: | 20 cores, 2 chips, 10 cores/chip, 2 threads/core |
| 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: | 25 MB I+D on chip per chip |
| Other Cache: | None |
| Memory: | 256 GB (16 x 16 GB 2Rx4 PC3-14900R-13, ECC) |
| Disk Subsystem: | 1 x SATA, 450 GB, 15000 RPM |
| Other Hardware: | None |

### Software

| | |
|---|---|
| Operating System: | Red Hat Enterprise Linux Server release 6.4 (Santiago)<br>2.6.32-358.11.1.el6.x86_64 |
| Compiler: | C/C++: Version 14.0.0.080 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 V10.0 |

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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 | 40 | 737 | 530 | 738 | 530 | **737** | **530** | 40 | 609 | 642 | **606** | **645** | 604 | 647 |
| 401.bzip2 | 40 | 998 | 387 | **997** | **387** | 997 | 387 | 40 | 977 | 395 | **977** | **395** | 976 | 395 |
| 403.gcc | 40 | 566 | 569 | **567** | **568** | 569 | 566 | 40 | 566 | 569 | **567** | **568** | 569 | 566 |
| 429.mcf | 40 | 330 | 1110 | 329 | 1110 | **329** | **1110** | 40 | 330 | 1110 | 329 | 1110 | **329** | **1110** |
| 445.gobmk | 40 | 804 | 522 | **804** | **522** | 804 | 522 | 40 | 787 | 533 | 787 | 533 | **787** | **533** |
| 456.hmmer | 40 | 385 | 970 | **385** | **970** | 384 | 971 | 40 | 351 | 1060 | **350** | **1070** | 350 | 1070 |
| 458.sjeng | 40 | 933 | 519 | 929 | 521 | **932** | **520** | 40 | 900 | 538 | 897 | 540 | **898** | **539** |
| 462.libquantum | 40 | **175** | **4730** | 176 | 4720 | 175 | 4730 | 40 | **175** | **4730** | 176 | 4720 | 175 | 4730 |
| 464.h264ref | 40 | **1002** | **883** | 1004 | 882 | 998 | 887 | 40 | **988** | **896** | 987 | 897 | 989 | 895 |
| 471.omnetpp | 40 | 623 | 401 | **623** | **401** | 622 | 402 | 40 | **590** | **424** | 591 | 423 | 590 | 424 |
| 473.astar | 40 | 685 | 410 | 688 | 408 | **687** | **408** | 40 | 685 | 410 | 688 | 408 | **687** | **408** |
| 483.xalancbmk | 40 | 359 | 768 | 360 | 766 | **359** | **768** | 40 | 359 | 768 | 360 | 766 | **359** | **768** |

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"
```

## Platform Notes

```
BIOS configuration:
Energy Performance = Performance
```

## General Notes

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

 Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
 memory using RedHat EL 6.4
 Transparent Huge Pages enabled with:
 echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
 Filesystem page cache cleared with:
 echo 1>       /proc/sys/vm/drop_caches
 runspec command invoked through numactl i.e.:
 numactl --interleave=all runspec <etc>
```

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## General Notes (Continued)

This result was measured on the PRIMERGY RX350 S8. The PRIMERGY RX350 S8
and the PRIMERGY TX300 S8 are electronically equivalent.
For information about Fujitsu please visit: http://www.fujitsu.com

## Base Compiler Invocation

C benchmarks:
icc -m32

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:
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3

C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3
-Wl,-z,muldefs -L/sh -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

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## Peak Compiler Invocation (Continued)

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: -xSSE4.2(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: -xSSE4.2(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: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias -opt-mem-layout-trans=3

456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32

458.sjeng: -xSSE4.2(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: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-unroll2 -ansi-alias

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## Peak Optimization Flags (Continued)

C++ benchmarks:

471.omnetpp: `-xSSE4.2`(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/sh -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/Intel-ic14.0-official-linux64.20140128.html`
`http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20130924.html`

You can also download the XML flags sources by saving the following links:
`http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml`
`http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20130924.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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