# SPEC® CINT2006 Result
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## Fujitsu

PRIMERGY RX2540 M1, Intel Xeon E5-2630L v3, 1.8 GHz

SPECint®_rate2006 =     580

SPECint_rate_base2006 =   559

| | |
|---|---|
| **CPU2006 license:** 19 | **Test date:** Nov-2014 |
| **Test sponsor:** Fujitsu | **Hardware Availability:** Sep-2014 |
| **Tested by:** Fujitsu | **Software Availability:** Nov-2013 |



**Copies** 0 200 400 600 800 1100 1400 1700 2000 2300 2600 2900 3200 3500 3800 4100 4400 4700 5000 5300 5700

- 400.perlbench — 32 / 497, 32 / 403
- 401.bzip2 — 32 / 285, 32 / 272
- 403.gcc — 32 / 438
- 429.mcf — 32 / 810
- 445.gobmk — 32 / 362, 32 / 352
- 456.hmmer — 32 / 792, 32 / 771
- 458.sjeng — 32 / 386, 32 / 375
- 462.libquantum — 32 / 5650
- 464.h264ref — 32 / 644, 32 / 615
- 471.omnetpp — 32 / 355, 32 / 336
- 473.astar — 32 / 313
- 483.xalancbmk — 32 / 641

SPECint_rate_base2006 = 559

SPECint_rate2006 = 580

## Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon E5-2630L v3 |
| CPU Characteristics: | Intel Turbo Boost Technology up to 2.90 GHz |
| CPU MHz: | 1800 |
| FPU: | Integrated |
| CPU(s) enabled: | 16 cores, 2 chips, 8 cores/chip, 2 threads/core |
| CPU(s) orderable: | 1,2 chip |
| Primary Cache: | 32 KB I + 32 KB D on chip per core |
| Secondary Cache: | 256 KB I+D on chip per core |
| L3 Cache: | 20 MB I+D on chip per chip |
| Other Cache: | None |
| Memory: | 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R, running at 1866 MHz) |
| Disk Subsystem: | 1 x SATA, 500 GB, 7200 RPM |
| Other Hardware: | None |

## Software

| | |
|---|---|
| Operating System: | Red Hat Enterprise Linux Server release 6.5 (Santiago) 2.6.32-431.23.3.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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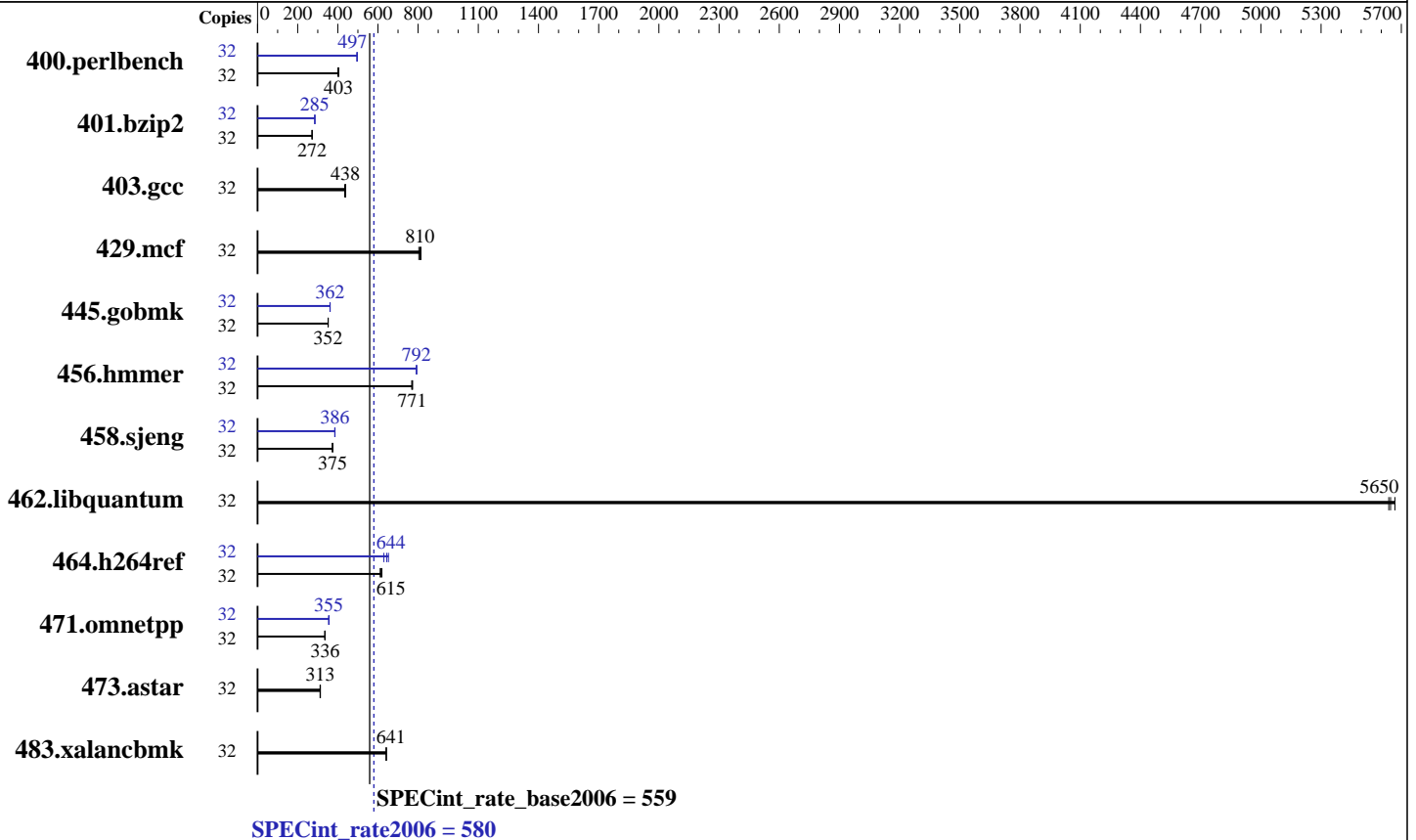**Test sponsor:** Fujitsu
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## Results Table

| Benchmark | Copies | Base Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Copies | Peak Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 400.perlbench | 32 | 781 | 400 | 773 | 404 | **775** | **403** | 32 | **629** | **497** | 632 | 495 | 629 | 497 |
| 401.bzip2 | 32 | 1135 | 272 | **1135** | **272** | 1138 | 271 | 32 | 1081 | 286 | **1082** | **285** | 1082 | 285 |
| 403.gcc | 32 | 586 | 439 | **588** | **438** | 593 | 434 | 32 | 586 | 439 | **588** | **438** | 593 | 434 |
| 429.mcf | 32 | 363 | 804 | **360** | **810** | 358 | 814 | 32 | 363 | 804 | **360** | **810** | 358 | 814 |
| 445.gobmk | 32 | 955 | 352 | 954 | 352 | **954** | **352** | 32 | 928 | 362 | 930 | 361 | **928** | **362** |
| 456.hmmer | 32 | **387** | **771** | 389 | 768 | 387 | 772 | 32 | **377** | **792** | 377 | 791 | 376 | 793 |
| 458.sjeng | 32 | 1041 | 372 | 1033 | 375 | **1034** | **375** | 32 | 1003 | 386 | 1007 | 385 | **1004** | **386** |
| 462.libquantum | 32 | 118 | 5640 | **117** | **5650** | 117 | 5670 | 32 | 118 | 5640 | **117** | **5650** | 117 | 5670 |
| 464.h264ref | 32 | 1159 | 611 | 1143 | 620 | **1151** | **615** | 32 | 1086 | 652 | 1125 | 630 | **1100** | **644** |
| 471.omnetpp | 32 | 594 | 337 | 598 | 335 | **595** | **336** | 32 | 564 | 354 | 561 | 357 | **563** | **355** |
| 473.astar | 32 | 721 | 311 | 718 | 313 | **718** | **313** | 32 | 721 | 311 | 718 | 313 | **718** | **313** |
| 483.xalancbmk | 32 | **344** | **641** | 344 | 641 | 344 | 642 | 32 | **344** | **641** | 344 | 641 | 344 | 642 |

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
      QPI snoop mode: Early Snoop
         COD Enable = Disabled, Early Snoop = Enabled
      CPU C1E Support = Disabled
      QPI Link Frequency Select = 6.4 GT/s

## General Notes

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

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## General Notes (Continued)

```
Filesystem page cache cleared with:
echo 1>       /proc/sys/vm/drop_caches
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

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:
    -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
    -opt-mem-layout-trans=3

C++ benchmarks:
    -xCORE-AVX2 -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

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# Peak Compiler Invocation (Continued)

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: `-xCORE-AVX2(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: `-xCORE-AVX2(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: `-xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)`
         `-ansi-alias -opt-mem-layout-trans=3`

456.hmmer: `-xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32`

458.sjeng: `-xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)`
         `-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)`
         `-unroll4 -auto-ilp32`

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# Peak Optimization Flags (Continued)

462.libquantum: basepeak = yes

464.h264ref: -xCORE-AVX2(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: -xCORE-AVX2(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-revB.html
http://www.spec.org/cpu2006/flags/Fujitsu-Platform-Settings-V1.2-HSW-RevA.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-revB.xml
http://www.spec.org/cpu2006/flags/Fujitsu-Platform-Settings-V1.2-HSW-RevA.xml

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

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