SPEC® CINT2006 Result

Fujitsu

PRIMERGY RX2540 M1, Intel Xeon E5-2650L v3, 1.8 GHz

SPECint®2006 =   48.7

SPECint_base2006 =   46.4

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

0 200 400 600 800 1000 1200 1400 1600 1800 2000 2200 2400 2600 2800 3000 3200 3400 3600 3800 4000 4200 4400 4600 4900

400.perlbench 33.5 / 28.3
401.bzip2 18.1 / 17.9
403.gcc 27.8 / 27.4
429.mcf 49.5 / 49.1
445.gobmk 20.8 / 18.6
456.hmmer 49.9
458.sjeng 25.0 / 24.7
462.libquantum 4870
464.h264ref 34.3
471.omnetpp 40.7
473.astar 30.6 / 24.6
483.xalancbmk 24.6 / 49.8

SPECint_base2006 = 46.4

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Hardware		Software	
CPU Name:	Intel Xeon E5-2650L v3	Operating System:	Red Hat Enterprise Linux Server release 6.5 (Santiago)
CPU Characteristics:	Intel Turbo Boost Technology up to 2.50 GHz		2.6.32-431.23.3.el6.x86_64
CPU MHz:	1800	Compiler:	C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux
FPU:	Integrated		
CPU(s) enabled:	24 cores, 2 chips, 12 cores/chip, 2 threads/core	Auto Parallel:	Yes
CPU(s) orderable:	1,2 chip	File System:	ext4
Primary Cache:	32 KB I + 32 KB D on chip per core	System State:	Run level 3 (multi-user)
Secondary Cache:	256 KB I+D on chip per core	Base Pointers:	32/64-bit
L3 Cache:	30 MB I+D on chip per chip	Peak Pointers:	32/64-bit
Other Cache:	None	Other Software:	Microquill SmartHeap V10.0
Memory:	256 GB (16 x 16 GB 2Rx4 PC4-2133P-R)		
Disk Subsystem:	1 x SATA, 500 GB, 7200 RPM		
Other Hardware:	None		

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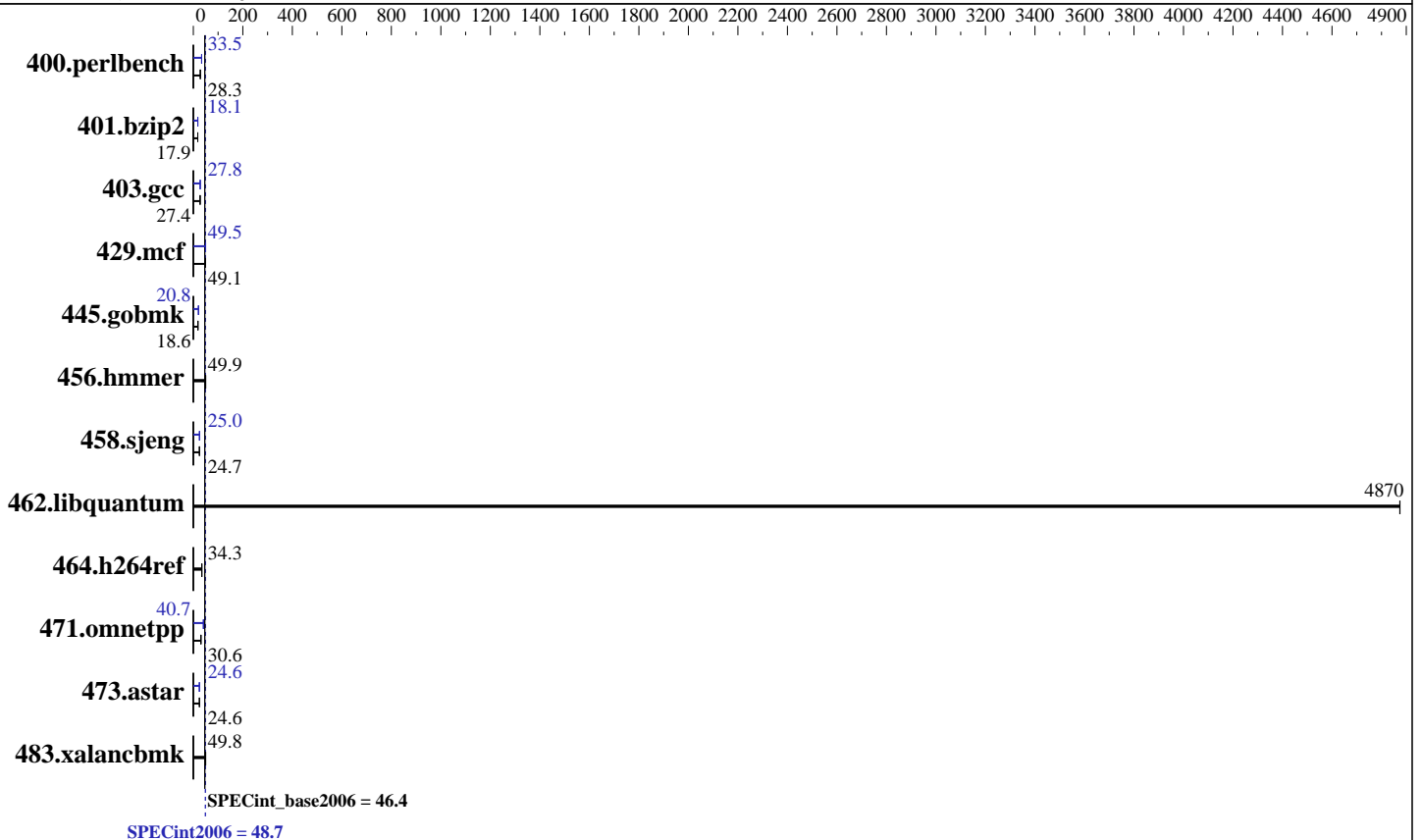SPECint_base2006 =   46.4

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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	345	28.3	**345**	**28.3**	344	28.4	**291**	**33.5**	291	33.5	291	33.6
401.bzip2	539	17.9	**538**	**17.9**	537	18.0	**533**	**18.1**	533	18.1	533	18.1
403.gcc	295	27.3	294	27.4	**294**	**27.4**	290	27.7	**289**	**27.8**	289	27.9
429.mcf	184	49.4	**186**	**49.1**	186	49.1	185	49.4	**184**	**49.5**	183	49.8
445.gobmk	563	18.6	564	18.6	**564**	**18.6**	**505**	**20.8**	505	20.8	504	20.8
456.hmmer	**187**	**49.9**	190	49.1	187	49.9	**187**	**49.9**	190	49.1	187	49.9
458.sjeng	**490**	**24.7**	490	24.7	490	24.7	485	25.0	**485**	**25.0**	485	24.9
462.libquantum	**4.25**	**4870**	4.25	4870	4.25	4870	**4.25**	**4870**	4.25	4870	4.25	4870
464.h264ref	643	34.4	650	34.1	**644**	**34.3**	643	34.4	650	34.1	**644**	**34.3**
471.omnetpp	**204**	**30.6**	201	31.0	206	30.4	**154**	**40.7**	154	40.6	152	41.2
473.astar	283	24.8	285	24.6	**285**	**24.6**	286	24.5	286	24.6	**286**	**24.6**
483.xalancbmk	**139**	**49.8**	138	49.8	139	49.6	**139**	**49.8**	138	49.8	139	49.6

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

Submit Notes

The config file option 'submit' was used.

Operating System Notes

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

Platform Notes

```
    BIOS configuration:
    Energy Performance = Performance
    Utilization Profile = Unbalanced
    QPI snoop mode: Early Snoop
        COD Enable = Disabled, Early Snoop = Enabled
    CPU C1E Support = Disabled
```

General Notes

```
    Environment variables set by runspec before the start of the run:
    KMP_AFFINITY = "granularity=fine,compact,1,0"
    LD_LIBRARY_PATH = "/home/SPECcpu2006/libs/32:/home/SPECcpu2006/libs/64:/home/SPECcpu2006/sh"
    OMP_NUM_THREADS = "24"

    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)

```
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  -m64
```

C++ benchmarks:
```
icpc -m64
```

Base Portability Flags

```
400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
    401.bzip2: -DSPEC_CPU_LP64
      403.gcc: -DSPEC_CPU_LP64
      429.mcf: -DSPEC_CPU_LP64
    445.gobmk: -DSPEC_CPU_LP64
    456.hmmer: -DSPEC_CPU_LP64
    458.sjeng: -DSPEC_CPU_LP64
 462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
   464.h264ref: -DSPEC_CPU_LP64
   471.omnetpp: -DSPEC_CPU_LP64
     473.astar: -DSPEC_CPU_LP64
 483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
```

Base Optimization Flags

C benchmarks:
```
-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32
```

C++ benchmarks:
```
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-Wl,-z,muldefs -L/sh -lsmartheap64
```

Base Other Flags

C benchmarks:

```
403.gcc: -Dalloca=_alloca
```

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Peak Compiler Invocation

C benchmarks (except as noted below):
    `icc  -m64`

   400.perlbench: `icc -m32`

    445.gobmk: `icc -m32`

C++ benchmarks (except as noted below):
    `icpc -m64`

   471.omnetpp: `icpc -m32`

Peak Portability Flags

```
     400.perlbench: -DSPEC_CPU_LINUX_IA32
        401.bzip2: -DSPEC_CPU_LP64
          403.gcc: -DSPEC_CPU_LP64
          429.mcf: -DSPEC_CPU_LP64
       456.hmmer: -DSPEC_CPU_LP64
        458.sjeng: -DSPEC_CPU_LP64
    462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
      464.h264ref: -DSPEC_CPU_LP64
        473.astar: -DSPEC_CPU_LP64
    483.xalancbmk: -DSPEC_CPU_LP64 -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)
              -opt-prefetch -ansi-alias

        401.bzip2: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
              -O3(pass 2) -no-prec-div -prof-use(pass 2) -auto-ilp32
              -opt-prefetch -ansi-alias

          403.gcc: -xCORE-AVX2 -ipo -O3 -no-prec-div -inline-calloc
              -opt-malloc-options=3 -auto-ilp32

          429.mcf: -xCORE-AVX2 -ipo -O3 -no-prec-div -parallel
              -opt-prefetch -auto-p32

        445.gobmk: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
              -ansi-alias
```

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Peak Optimization Flags (Continued)

456.hmmer: basepeak = yes

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

462.libquantum: basepeak = yes

464.h264ref: basepeak = yes

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)
-opt-ra-region-strategy=block   -ansi-alias
-Wl,-z,muldefs -L/sh -lsmartheap

473.astar: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
-auto-p32 -Wl,-z,muldefs -L/sh -lsmartheap64

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.

Tested with SPEC CPU2006 v1.2.
Report generated on Wed Sep 23 13:22:33 2015 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 13 January 2015.