SPEC® CINT2006 Result
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Fujitsu

PRIMERGY CX2550 M1, Intel Xeon E5-2640 v3, 2.6 GHz

$SPECint®2006 =$ 62.3

$SPECint\_base2006 =$ 58.8

CPU2006 license: 19	**Test date:** Nov-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 4800   5200

- **400.perlbench** 45.2 / 38.4
- **401.bzip2** 24.8 / 24.6
- **403.gcc** 35.9 / 35.5
- **429.mcf** 65.4
- **445.gobmk** 28.5 / 24.3
- **456.hmmer** 67.2
- **458.sjeng** 33.4 / 33.0
- **462.libquantum** 5130
- **464.h264ref** 45.6
- **471.omnetpp** 40.4 / 28.9
- **473.astar** 33.1 / 32.8
- **483.xalancbmk** 65.3 / 64.9

SPECint_base2006 = 58.8

SPECint2006 = 62.3

Hardware

CPU Name:	Intel Xeon E5-2640 v3
CPU Characteristics:	Intel Turbo Boost Technology up to 3.40 GHz
CPU MHz:	2600
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:	Yes
File System:	ext4
System State:	Run level 3 (multi-user)
Base Pointers:	32/64-bit
Peak Pointers:	32/64-bit
Other Software:	Microquill SmartHeap V10.0

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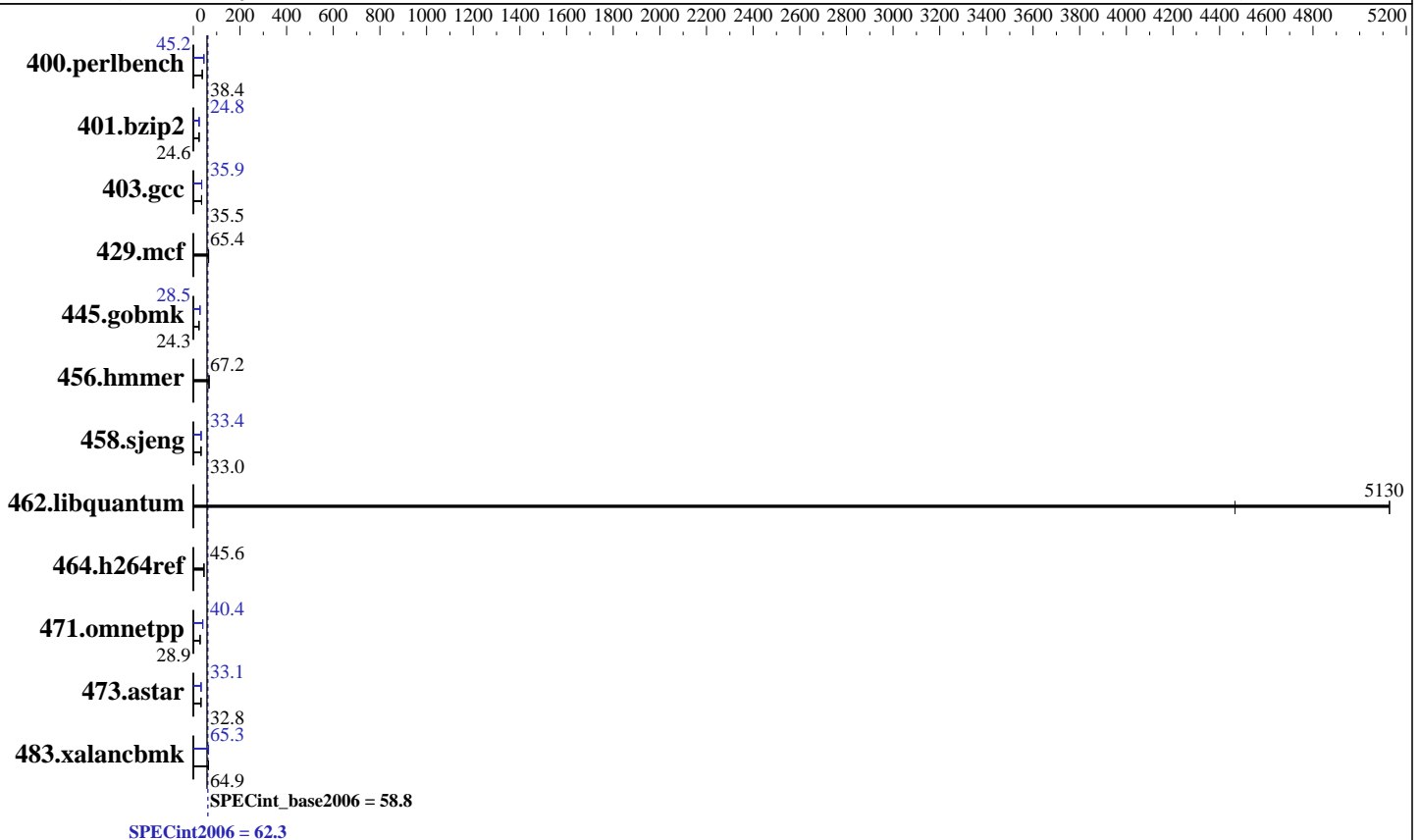
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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	252	38.8	255	38.3	**254**	**38.4**	217	45.1	**216**	**45.2**	216	45.3
401.bzip2	**392**	**24.6**	393	24.6	392	24.6	**389**	**24.8**	389	24.8	388	24.9
403.gcc	**227**	**35.5**	227	35.5	227	35.5	224	36.0	**224**	**35.9**	224	35.9
429.mcf	140	65.4	139	65.6	**139**	**65.4**	140	65.4	139	65.6	**139**	**65.4**
445.gobmk	433	24.2	432	24.3	**432**	**24.3**	**368**	**28.5**	368	28.5	368	28.5
456.hmmer	137	68.0	**139**	**67.2**	140	66.6	137	68.0	**139**	**67.2**	140	66.6
458.sjeng	367	33.0	**367**	**33.0**	367	33.0	362	33.4	363	33.3	**363**	**33.4**
462.libquantum	**4.04**	**5130**	4.64	4470	4.04	5130	**4.04**	**5130**	4.64	4470	4.04	5130
464.h264ref	486	45.5	**486**	**45.6**	485	45.6	486	45.5	**486**	**45.6**	485	45.6
471.omnetpp	**216**	**28.9**	217	28.9	216	29.0	154	40.7	**155**	**40.4**	156	40.2
473.astar	216	32.5	213	33.0	**214**	**32.8**	211	33.2	**212**	**33.1**	212	33.1
483.xalancbmk	106	64.9	**106**	**64.9**	107	64.6	**106**	**65.3**	106	65.4	106	65.0

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 = "16"

     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>

This result was measured on the PRIMERGY CX2550 M1. The PRIMERGY CX2550 M1
and the PRIMERGY CX2570 M1 are electronically equivalent.
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:

Continued on next page

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Base Other Flags (Continued)

403.gcc: -Dalloca=_alloca

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 -m32

    473.astar: icpc -m64

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_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

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Peak Optimization Flags (Continued)

429.mcf: basepeak = yes

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

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: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
-ansi-alias -Wl,-z,muldefs -L/sh -lsmartheap

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.20141216.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.20141216.xml

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