SPEC® CINT2006 Result
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Fujitsu

PRIMERGY BX2580 M1, Intel Xeon E5-2699 v3, 2.3 GHz

$SPECint®2006 = $ 66.5

$SPECint_base2006 = $ 62.9

CPU2006 license:	19	**Test date:**	Apr-2015
Test sponsor:	Fujitsu	**Hardware Availability:**	Mar-2015
Tested by:	Fujitsu	**Software Availability:**	Nov-2013

400.perlbench 47.5 / 39.8
401.bzip2 24.7 / 24.3
403.gcc 35.0 / 34.8
429.mcf 59.7 / 59.1
445.gobmk 29.5 / 24.4
456.hmmer 71.5
458.sjeng 35.3 / 34.7
462.libquantum 7790
464.h264ref 43.0
471.omnetpp 53.9 / 44.3
473.astar 33.2 / 32.6
483.xalancbmk 68.1 / 65.7

SPECint_base2006 = 62.9

SPECint2006 = 66.5

Hardware

CPU Name:	Intel Xeon E5-2699 v3
CPU Characteristics:	Intel Turbo Boost Technology up to 3.60 GHz
CPU MHz:	2300
FPU:	Integrated
CPU(s) enabled:	36 cores, 2 chips, 18 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:	45 MB I+D on chip per chip
Other Cache:	None
Memory:	256 GB (16 x 16 GB 2Rx4 PC4-2133P-R)
Disk Subsystem:	1 x SATA, 500 GB, 7200 RPM
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Server release 6.6 (Santiago) 2.6.32-504.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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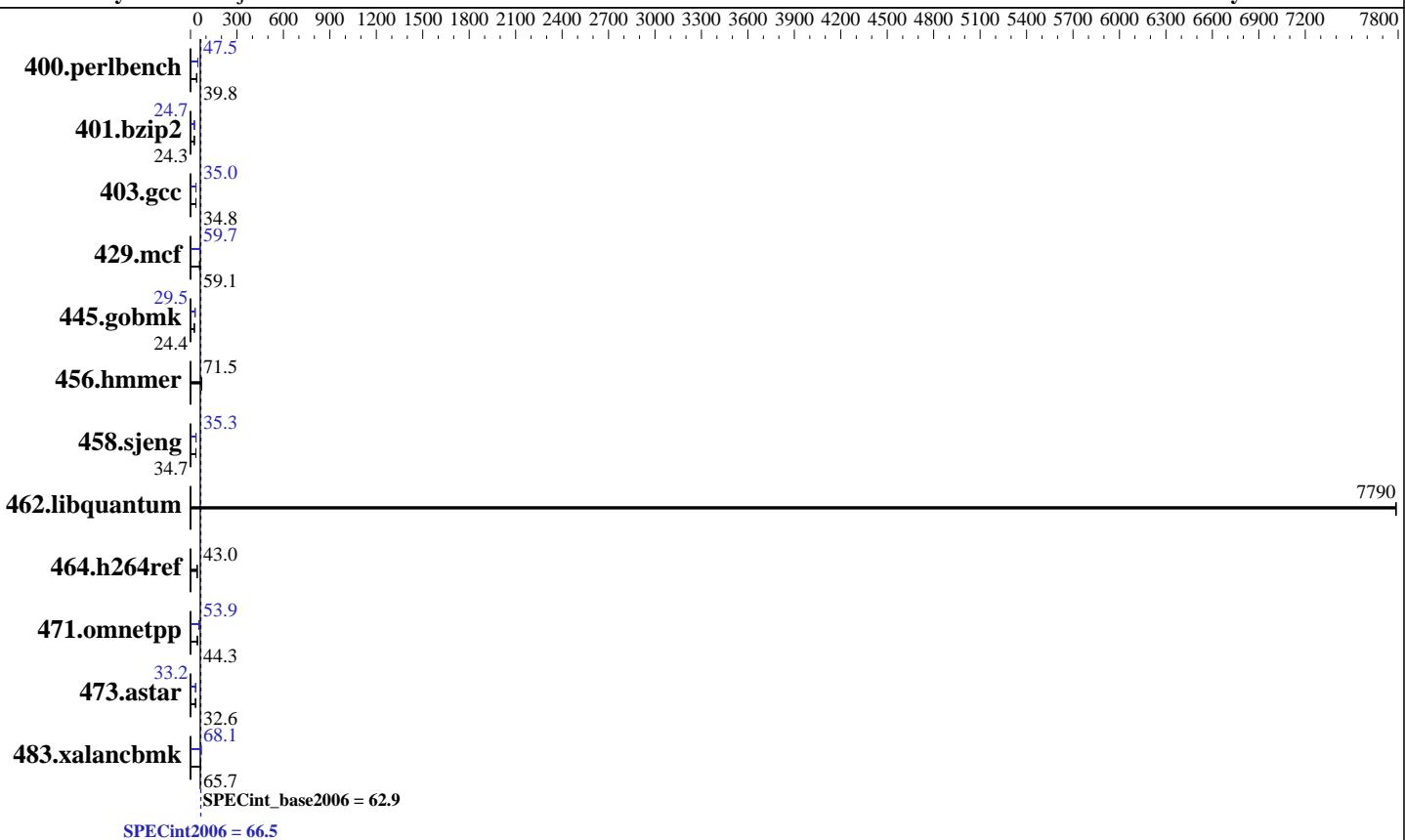
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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	243	40.2	246	39.8	**246**	**39.8**	**206**	**47.5**	205	47.6	206	47.4
401.bzip2	397	24.3	**397**	**24.3**	396	24.3	390	24.7	390	24.8	**390**	**24.7**
403.gcc	**231**	**34.8**	231	34.9	231	34.8	230	35.0	**230**	**35.0**	230	34.9
429.mcf	156	58.4	154	59.2	**154**	**59.1**	152	59.8	**153**	**59.7**	154	59.4
445.gobmk	430	24.4	429	24.5	**429**	**24.4**	**356**	**29.5**	356	29.5	357	29.4
456.hmmer	**130**	**71.5**	131	71.3	130	71.8	**130**	**71.5**	131	71.3	130	71.8
458.sjeng	349	34.7	349	34.6	**349**	**34.7**	343	35.3	**343**	**35.3**	343	35.3
462.libquantum	2.66	7790	**2.66**	**7790**	2.66	7790	2.66	7790	**2.66**	**7790**	2.66	7790
464.h264ref	518	42.7	514	43.0	**515**	**43.0**	518	42.7	514	43.0	**515**	**43.0**
471.omnetpp	142	43.9	140	44.7	**141**	**44.3**	116	53.8	115	54.4	**116**	**53.9**
473.astar	215	32.7	**215**	**32.6**	216	32.5	211	33.3	213	33.0	**212**	**33.2**
483.xalancbmk	105	65.8	**105**	**65.7**	106	65.3	102	68.0	**101**	**68.1**	101	68.5

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: Home Snoop
    COD Enable = Disabled, Early Snoop = Disabled
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 = "36"

 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>

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```

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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Peek 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`

       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: -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-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

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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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