SPEC® CINT2006 Result

Fujitsu

PRIMEQUEST 2800E2, Intel Xeon E7-8891 v3, 2.80 GHz

$SPECint^{®}\_rate2006 =$ 3900

$SPECint\_rate\_base2006 =$ 3780

CPU2006 license:	19	**Test date:**	Apr-2015
Test sponsor:	Fujitsu	**Hardware Availability:**	May-2015
Tested by:	Fujitsu	**Software Availability:**	Oct-2014

Copies

Benchmark	Peak	Base
400.perlbench	160 / 3470	160 / 2920
401.bzip2	160 / 2080	160 / 1980
403.gcc		160 / 2800
429.mcf		160 / 4600
445.gobmk	160 / 2670	160 / 2600
456.hmmer	160 / 6020	160 / 5890
458.sjeng	160 / 2840	160 / 2730
462.libquantum		160 / 37400
464.h264ref	160 / 4720	160 / 4580
471.omnetpp	160 / 1880	160 / 1800
473.astar		160 / 2070
483.xalancbmk		160 / 4300

SPECint_rate_base2006 = 3780

SPECint_rate2006 = 3900

Hardware

CPU Name:	Intel Xeon E7-8891 v3
CPU Characteristics:	Intel Turbo Boost Technology up to 3.50 GHz
CPU MHz:	2800
FPU:	Integrated
CPU(s) enabled:	80 cores, 8 chips, 10 cores/chip, 2 threads/core
CPU(s) orderable:	1,2,4,6,8 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:	45 MB I+D on chip per chip
Other Cache:	None
Memory:	2 TB (128 x 16 GB 2Rx4 PC4-2133P-R, running at 1600 MHz)
Disk Subsystem:	2 x SATA, 600 GB, 10000 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:	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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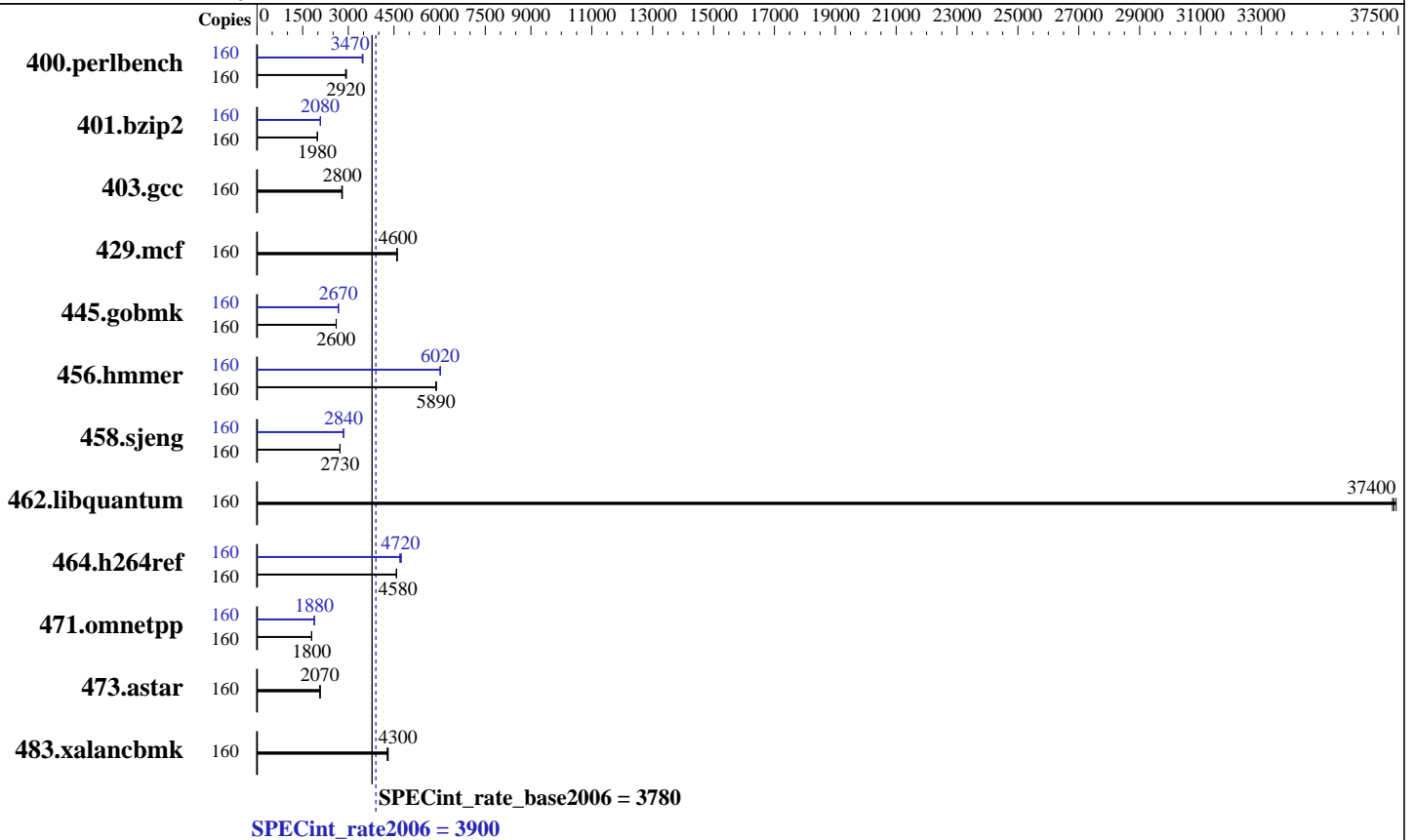
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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	160	532	2940	**536**	**2920**	537	2910	160	452	3460	**450**	**3470**	449	3480
401.bzip2	160	777	1990	**778**	**1980**	779	1980	160	**742**	**2080**	742	2080	741	2080
403.gcc	160	460	2800	463	2780	**460**	**2800**	160	460	2800	463	2780	**460**	**2800**
429.mcf	160	317	4600	**317**	**4600**	316	4610	160	317	4600	**317**	**4600**	316	4610
445.gobmk	160	646	2600	645	2600	**645**	**2600**	160	628	2670	628	2670	**628**	**2670**
456.hmmer	160	254	5880	**254**	**5890**	253	5890	160	248	6030	248	6010	**248**	**6020**
458.sjeng	160	**710**	**2730**	710	2730	710	2730	160	681	2840	681	2840	**681**	**2840**
462.libquantum	160	**88.8**	**37400**	88.6	37400	88.9	37300	160	**88.8**	**37400**	88.6	37400	88.9	37300
464.h264ref	160	**772**	**4580**	774	4580	772	4590	160	747	4740	755	4690	**750**	**4720**
471.omnetpp	160	557	1790	557	1800	**557**	**1800**	160	**531**	**1880**	530	1890	532	1880
473.astar	160	**543**	**2070**	541	2080	544	2070	160	**543**	**2070**	541	2080	544	2070
483.xalancbmk	160	**257**	**4300**	258	4280	256	4310	160	**257**	**4300**	258	4280	256	4310

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 = "/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
   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)

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

    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: -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

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
```

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Peak Optimization Flags (Continued)

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/Fujitsu-Platform-Settings-V1.2-HSW-RevA.html
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64-revB.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Fujitsu-Platform-Settings-V1.2-HSW-RevA.xml
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64-revB.xml

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

Tested with SPEC CPU2006 v1.2.
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