SPEC® CINT2006 Result
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Quanta Computer Inc.

Quanta Q71L-4U(Intel Xeon E7-4890 v2)

$SPECint^{®}\_rate2006 =$ 2390

SPECint_rate_base2006 = 2320

CPU2006 license: 9050

Test sponsor: Quanta Computer Inc.

Tested by: Quanta Computer Inc.

Test date: Jun-2014

Hardware Availability: Jun-2014

Software Availability: Nov-2013

	Copies		
400.perlbench	120	2230	
	120	1900	
401.bzip2	120	1240	
	120	1220	
403.gcc	120	1710	
	120	1710	
429.mcf	120	3130	
445.gobmk	120	1910	
	120	1870	
456.hmmer	120	3570	
	120	3350	
458.sjeng	120	1920	
	120	1830	
462.libquantum	120	16500	
464.h264ref	120	3200	
	120	3160	
471.omnetpp	120	1100	
	120	1060	
473.astar	120	1290	
483.xalancbmk	120	2420	

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Hardware

CPU Name: Intel Xeon E7-4890 v2

CPU Characteristics: Intel Turbo Boost Technology up to 3.40 GHz

CPU MHz: 2800

FPU: Integrated

CPU(s) enabled: 60 cores, 4 chips, 15 cores/chip, 2 threads/core

CPU(s) orderable: 1,2,3,4 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: 37.5 MB I+D on chip per chip

Other Cache: None

Memory: 512 GB (64 x 8 GB 2Rx4 PC3-10600R-13, ECC)

Disk Subsystem: 394 GB add more disk info here

Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 6.5 (Santiago)
2.6.32-431.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 mode)

Base Pointers: 32-bit

Peak Pointers: 32/64-bit

Other Software: Microquill SmartHeap V10.0

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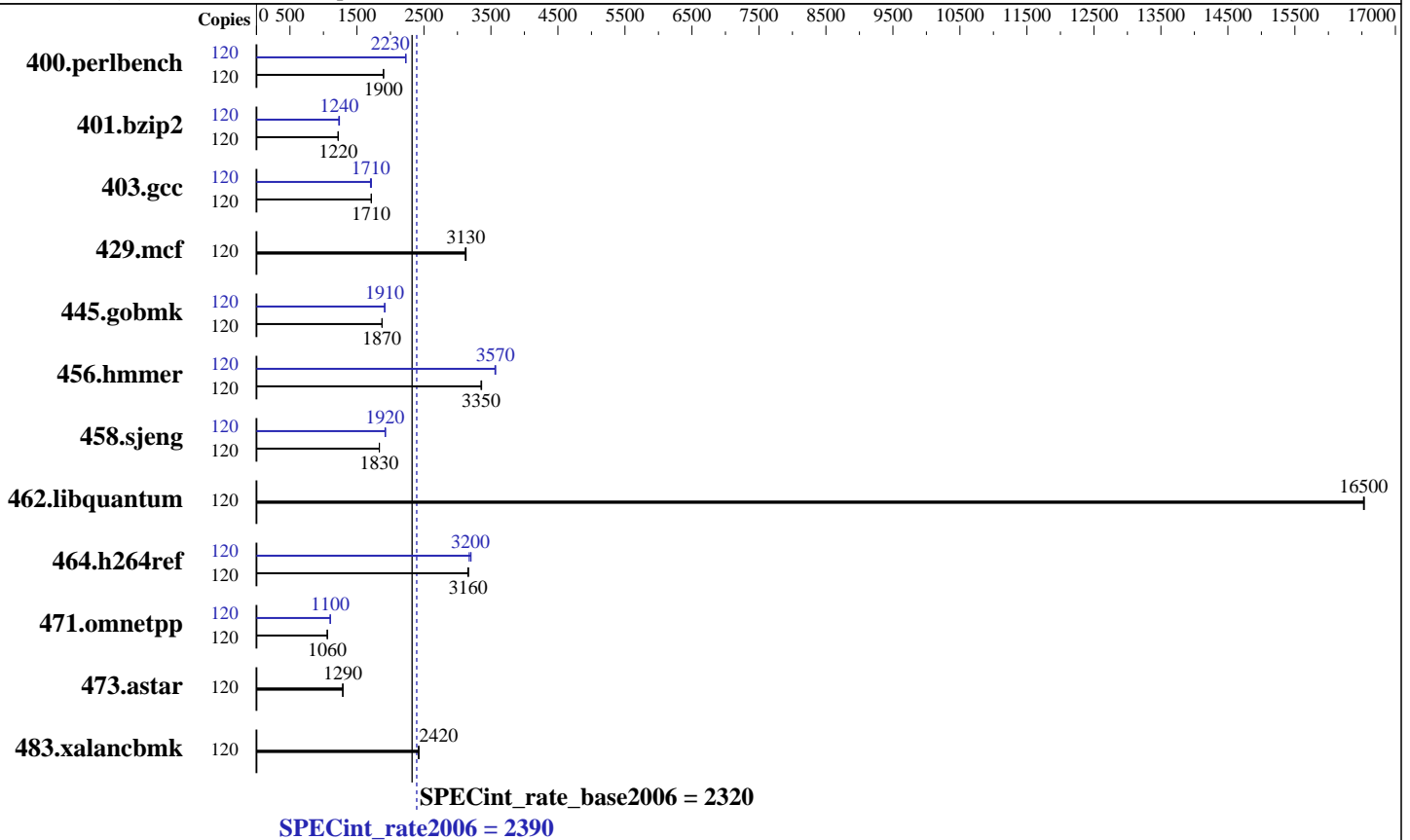
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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	120	619	1890	618	1900	**619**	**1900**	120	526	2230	**526**	**2230**	526	2230
401.bzip2	120	948	1220	**949**	**1220**	951	1220	120	935	1240	**937**	**1240**	942	1230
403.gcc	120	564	1710	563	1710	**563**	**1710**	120	563	1720	**565**	**1710**	568	1700
429.mcf	120	**350**	**3130**	350	3130	351	3120	120	**350**	**3130**	350	3130	351	3120
445.gobmk	120	**672**	**1870**	671	1880	672	1870	120	658	1910	657	1910	**657**	**1910**
456.hmmer	120	**334**	**3350**	333	3360	334	3350	120	314	3570	315	3560	**314**	**3570**
458.sjeng	120	792	1830	**792**	**1830**	792	1830	120	**756**	**1920**	756	1920	753	1930
462.libquantum	120	150	16500	150	16500	**150**	**16500**	120	150	16500	150	16500	**150**	**16500**
464.h264ref	120	**840**	**3160**	839	3170	842	3150	120	**831**	**3200**	829	3200	836	3170
471.omnetpp	120	**709**	**1060**	709	1060	709	1060	120	681	1100	680	1100	**681**	**1100**
473.astar	120	654	1290	653	1290	**654**	**1290**	120	654	1290	653	1290	**654**	**1290**
483.xalancbmk	120	342	2420	342	2420	**342**	**2420**	120	342	2420	342	2420	**342**	**2420**

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

    Sysinfo program /root/speccpu_linux/config/sysinfo.rev6818
    $Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
    running on localhost.localdomain Fri Jun 20 19:43:36 2014

    This section contains SUT (System Under Test) info as seen by
    some common utilities. To remove or add to this section, see:
      http://www.spec.org/cpu2006/Docs/config.html#sysinfo

    From /proc/cpuinfo
       model name : Intel(R) Xeon(R) CPU E7-4890 v2 @ 2.80GHz
          4 "physical id"s (chips)
          120 "processors"
       cores, siblings (Caution: counting these is hw and system dependent. The
       following excerpts from /proc/cpuinfo might not be reliable. Use with
       caution.)
          cpu cores : 15
          siblings : 30

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Platform Notes (Continued)

```
    physical 0: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
    physical 1: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
    physical 2: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
    physical 3: cores 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14
  cache size : 38400 KB

From /proc/meminfo
   MemTotal:       529144892 kB
   HugePages_Total:        1
   Hugepagesize:        2048 kB

/usr/bin/lsb_release -d
   Red Hat Enterprise Linux Server release 6.5 (Santiago)

From /etc/*release* /etc/*version*
   redhat-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)
   system-release: Red Hat Enterprise Linux Server release 6.5 (Santiago)
   system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

uname -a:
   Linux localhost.localdomain 2.6.32-431.el6.x86_64 #1 SMP Sun Nov 10 22:19:54
   EST 2013 x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Jun 20 19:31

SPEC is set to: /root/speccpu_linux
   Filesystem      Type  Size  Used Avail Use% Mounted on
   /dev/sda2       ext4  394G   11G  363G   3% /

Additional information from dmidecode:
 BIOS American Megatrends Inc. S4L_3A06 04/18/2014
 Memory:
  32x NO DIMM NO DIMM
  64x Samsung M393B1K70CH0-CH9 8 GB 1333 MHz 2 rank

(End of data from sysinfo program)
```

General Notes

```
Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/root/speccpu_linux/libs/32:/root/speccpu_linux/libs/64:/root/speccpu_linux/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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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:
   -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3

C++ benchmarks:
   -xSSE4.2 -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

     456.hmmer: icc -m64

      458.sjeng: icc -m64

C++ benchmarks:
   icpc -m32

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Test sponsor:　　Quanta Computer Inc.　　　　　　　　**Hardware Availability:** Jun-2014
Tested by:　　　　Quanta Computer Inc.　　　　　　　　**Software Availability:**　Nov-2013

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: -xSSE4.2(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: -xSSE4.2(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: -xSSE4.2 -ipo -O3 -no-prec-div

      429.mcf: basepeak = yes

    445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
               -ansi-alias -opt-mem-layout-trans=3

    456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32

    458.sjeng: -xSSE4.2(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: -xSSE4.2(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: -xSSE4.2(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
```

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Peak Optimization Flags (Continued)

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-linux64.20140128.html
http://www.spec.org/cpu2006/flags/Quanta-Computer-Inc-Platform-Settings-V1.0.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/Quanta-Computer-Inc-Platform-Settings-V1.0.xml

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

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