SPEC® CINT2006 Result
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Fujitsu

CELSIUS M720 (Intel Xeon E5-1660)

$SPECint®2006 =$ 57.7

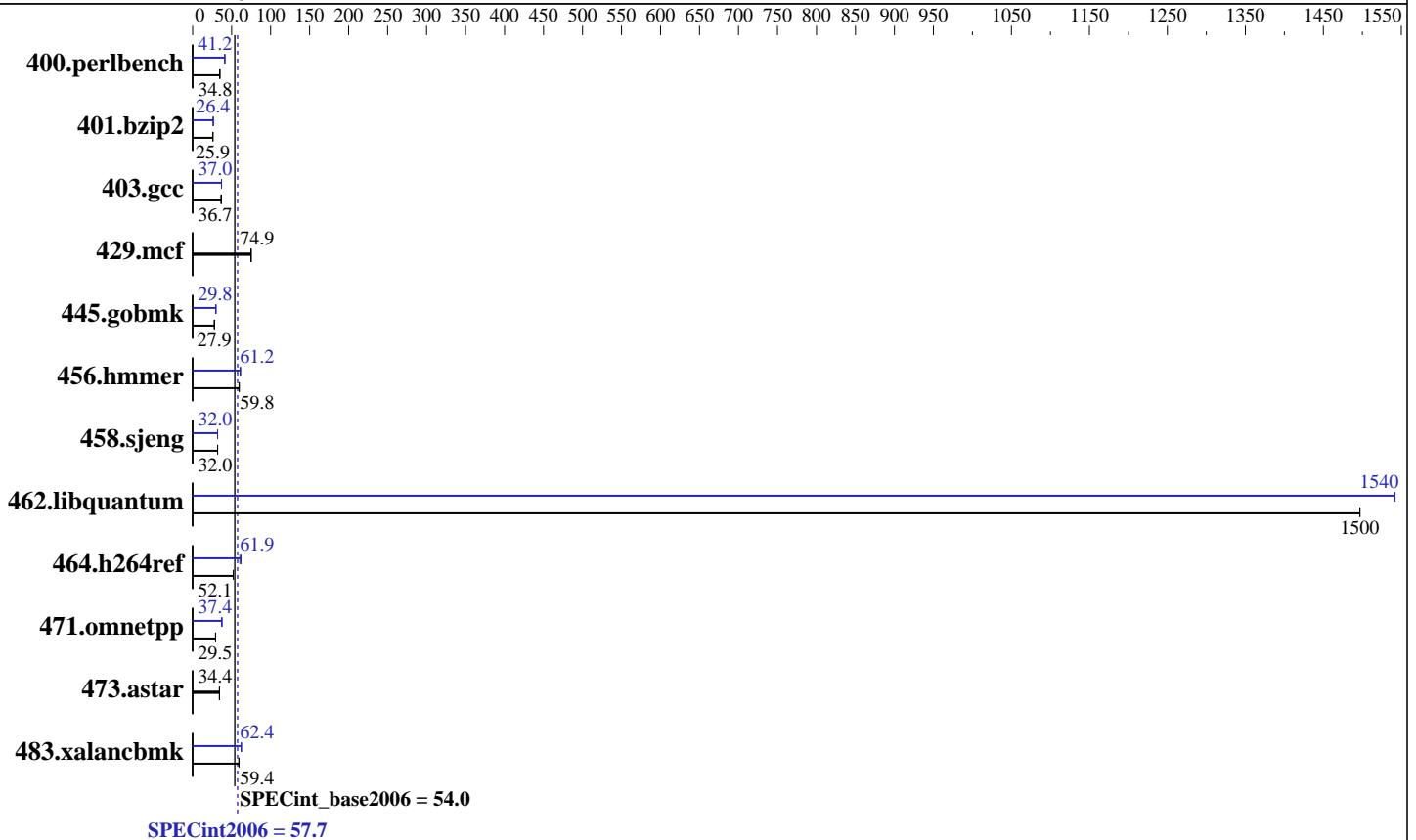$SPECint\_base2006 =$ 54.0

CPU2006 license: 19
Test sponsor: Fujitsu
Tested by: Fujitsu

Test date: Mar-2012
Hardware Availability: Mar-2012
Software Availability: Feb-2012

Benchmark	base	peak
400.perlbench	34.8	41.2
401.bzip2	25.9	26.4
403.gcc	36.7	37.0
429.mcf		74.9
445.gobmk	27.9	29.8
456.hmmer	59.8	61.2
458.sjeng	32.0	32.0
462.libquantum	1500	1540
464.h264ref	52.1	61.9
471.omnetpp	29.5	37.4
473.astar	34.4	
483.xalancbmk	59.4	62.4

SPECint_base2006 = 54.0

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Hardware

CPU Name:	Intel Xeon E5-1660
CPU Characteristics:	Intel Turbo Boost Technology up to 3.90 GHz
CPU MHz:	3300
FPU:	Integrated
CPU(s) enabled:	6 cores, 1 chip, 6 cores/chip
CPU(s) orderable:	1 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:	15 MB I+D on chip per chip
Other Cache:	None
Memory:	32 GB (8 x 4 GB 2Rx8 PC3-12800E-11, ECC)
Disk Subsystem:	1 x SATA III, 500 GB, 7200 rpm
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Server release 6.2, 2.6.32-220.0.el6.x86_64
Compiler:	C/C++: Version 12.1.3.293 of Intel C++ Studio XE for Linux
Auto Parallel:	Yes
File System:	ReiserFS
System State:	Run level 3 (multi - user)
Base Pointers:	32/64-bit
Peak Pointers:	32/64-bit
Other Software:	Microquill SmartHeap 10 (Multi-Core)

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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	280	34.9	**281**	**34.8**	281	34.8	237	41.2	**237**	**41.2**	237	41.2
401.bzip2	372	25.9	372	25.9	**372**	**25.9**	366	26.4	365	26.5	**365**	**26.4**
403.gcc	219	36.7	**220**	**36.7**	220	36.6	217	37.0	218	37.0	**217**	**37.0**
429.mcf	122	74.8	**122**	**74.9**	122	75.0	122	74.8	**122**	**74.9**	122	75.0
445.gobmk	376	27.9	376	27.9	**376**	**27.9**	352	29.8	**352**	**29.8**	352	29.8
456.hmmer	157	59.5	156	59.8	**156**	**59.8**	153	61.2	**152**	**61.2**	152	61.2
458.sjeng	378	32.0	**378**	**32.0**	378	32.0	379	32.0	**378**	**32.0**	378	32.0
462.libquantum	13.8	1500	13.8	1500	**13.8**	**1500**	13.4	1540	13.4	1540	**13.4**	**1540**
464.h264ref	425	52.1	425	52.0	**425**	**52.1**	357	61.9	366	60.5	**357**	**61.9**
471.omnetpp	**212**	**29.5**	212	29.5	213	29.3	**167**	**37.4**	167	37.5	167	37.4
473.astar	205	34.3	204	34.5	**204**	**34.4**	205	34.3	204	34.5	**204**	**34.4**
483.xalancbmk	116	59.5	**116**	**59.4**	116	59.3	110	62.5	111	62.4	**111**	**62.4**

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

Operating System Notes

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

Platform Notes

    BIOS settings:
    Hyper-Threading Technology = Disabled
    Frequency Floor Override = Enabled

General Notes

    Environment variables set by runspec before the start of the run:
    KMP_AFFINITY = "granularity=fine,scatter"
    LD_LIBRARY_PATH = "/work/cpu2006/libs/32:/work/cpu2006/libs/64"
    OMP_NUM_THREADS = "6"

    Binaries compiled on a system with
    2x Xeon E5-2650 CPU + 64 GB memory using
    Red Hat Enterprise Linux Server release 6.2 (Santiago)
    The RPMs glibc-static-2.12-1.47.el6.x86_64.rpm
    and glibc-static-2.12-1.47.el6.i686.rpm
    were added to enable static linking.

    Transparent Huge Pages enabled with:
    echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled

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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:
    -xSSE4.2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32

C++ benchmarks:
    -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
    -Wl,-z,muldefs -L/opt/SmartHeap/lib64 -lsmartheap64

Base Other Flags

C benchmarks:

        403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

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

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Peak Compiler Invocation (Continued)

400.perlbench: `icc -m32`

445.gobmk: `icc -m32`

464.h264ref: `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`
473.astar: `-DSPEC_CPU_LP64`
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)`
`-opt-prefetch -ansi-alias`

401.bzip2: `-xSSE4.2(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: `-xAVX -ipo -O3 -no-prec-div -inline-calloc`
`-opt-malloc-options=3 -auto-ilp32`

429.mcf: `basepeak = yes`

445.gobmk: `-xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)`
`-ansi-alias`

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

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Peak Optimization Flags (Continued)

```
   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

462.libquantum: -xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch
              -auto-p32

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

    473.astar: basepeak = yes

 483.xalancbmk: -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias
              -Wl,-z,muldefs -L/opt/SmartHeap/lib -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-ic12.1-official-linux64.20111122.html
http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20120313.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml
http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20120313.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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