SPEC® CINT2006 Result

Fujitsu

PRIMERGY RX2520 M1, Intel Xeon E5-2407 v2, 2.40 GHz

$SPECint®2006 =$ **38.1**

$SPECint\_base2006 =$ **36.2**

CPU2006 license: 19	**Test date:** Jan-2014
Test sponsor: Fujitsu	**Hardware Availability:** Feb-2014
Tested by: Fujitsu	**Software Availability:** Sep-2013

Benchmark results chart (scale 0 to 1500):

- 400.perlbench: 27.0 / 22.5
- 401.bzip2: 16.8 / 16.6
- 403.gcc: 23.6 / 23.2
- 429.mcf: 48.3
- 445.gobmk: 18.7 / 18.2
- 456.hmmer: 42.6
- 458.sjeng: 20.8 / 20.3
- 462.libquantum: 1490
- 464.h264ref: 39.5 / 36.8
- 471.omnetpp: 22.0 / 16.6
- 473.astar: 21.6 / 21.5
- 483.xalancbmk: 39.3

SPECint_base2006 = 36.2

SPECint2006 = 38.1

Hardware

CPU Name:	Intel Xeon E5-2407 v2
CPU Characteristics:	
CPU MHz:	2400
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 4 cores/chip
CPU(s) orderable:	1,2 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:	10 MB I+D on chip per chip
Other Cache:	None
Memory:	192 GB (12 x 16 GB 2Rx4 PC3L-12800R-11, ECC, running at 1333 MHz and CL9)
Disk Subsystem:	1 x SATA, 500 GB, 7200 RPM
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Server release 6.4 (Santiago) 2.6.32-358.11.1.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 5 (multi-user)
Base Pointers:	32/64-bit
Peak Pointers:	32/64-bit
Other Software:	Microquill SmartHeap V10.0

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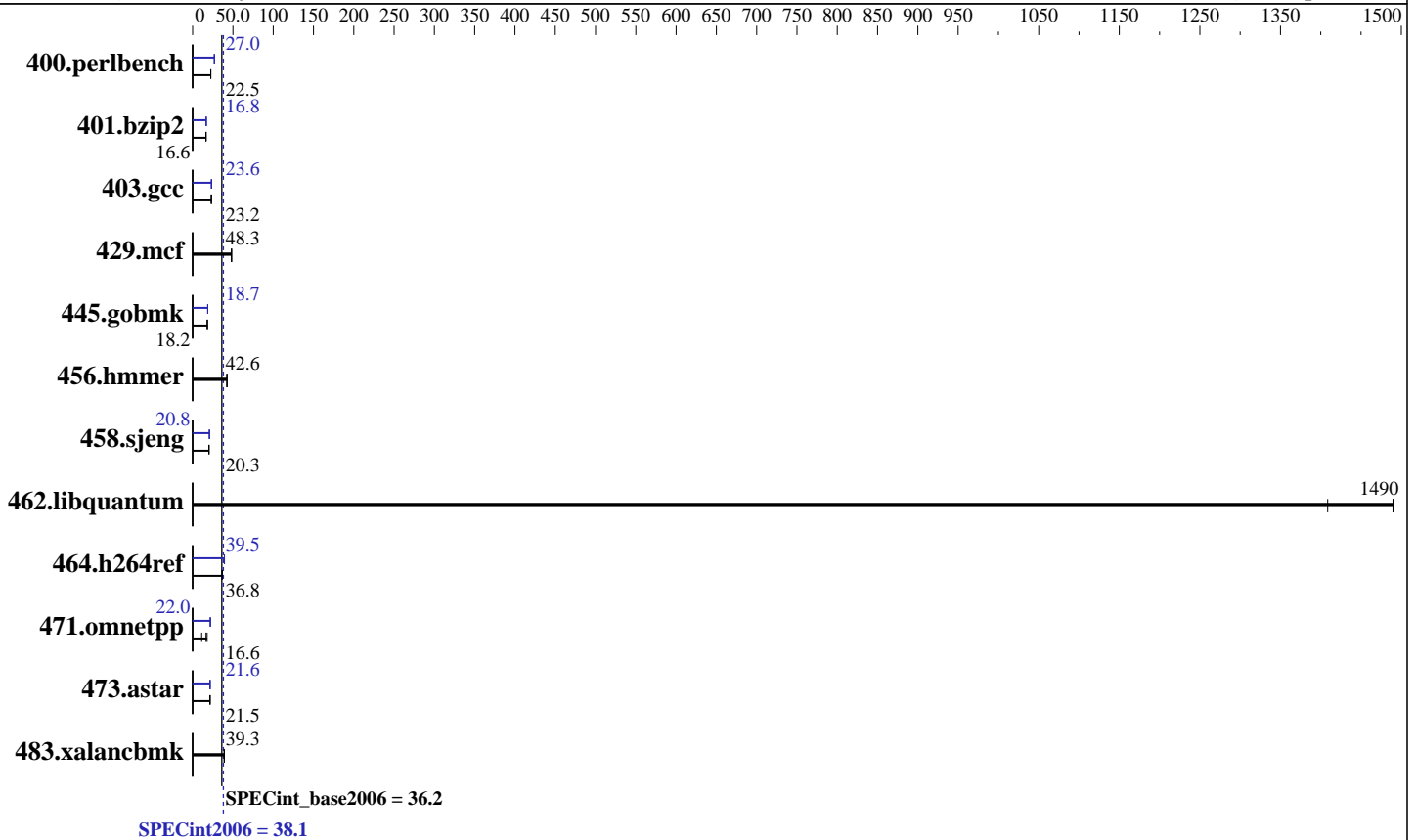
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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	**434**	**22.5**	434	22.5	433	22.6	**362**	**27.0**	362	27.0	362	27.0
401.bzip2	**582**	**16.6**	582	16.6	582	16.6	573	16.8	573	16.9	**573**	**16.8**
403.gcc	347	23.2	**347**	**23.2**	346	23.3	350	23.0	341	23.6	**342**	**23.6**
429.mcf	189	48.2	**189**	**48.3**	189	48.3	189	48.2	**189**	**48.3**	189	48.3
445.gobmk	**576**	**18.2**	577	18.2	575	18.3	**560**	**18.7**	560	18.7	560	18.7
456.hmmer	219	42.6	219	42.6	**219**	**42.6**	219	42.6	219	42.6	**219**	**42.6**
458.sjeng	597	20.3	**597**	**20.3**	597	20.3	582	20.8	**582**	**20.8**	583	20.8
462.libquantum	**13.9**	**1490**	14.7	1410	13.9	1490	**13.9**	**1490**	14.7	1410	13.9	1490
464.h264ref	602	36.7	602	36.8	**602**	**36.8**	**561**	**39.5**	561	39.5	561	39.4
471.omnetpp	558	11.2	**376**	**16.6**	348	18.0	286	21.8	284	22.0	**284**	**22.0**
473.astar	**326**	**21.5**	327	21.5	324	21.7	325	21.6	**325**	**21.6**	323	21.7
483.xalancbmk	176	39.3	**176**	**39.3**	176	39.2	176	39.3	**176**	**39.3**	176	39.2

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
```

General Notes

```
Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,compact,1,0"
LD_LIBRARY_PATH = "/SPECcpu2006/libs/32:/SPECcpu2006/libs/64:/SPECcpu2006/sh"
OMP_NUM_THREADS = "8"

 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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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:
```
-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32
```

C++ benchmarks:
```
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -Wl,-z,muldefs
-L/sh -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 -m64`

471.omnetpp: `icpc -m32`

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_LP64 -DSPEC_CPU_LINUX`

Peak Optimization Flags

C benchmarks:

400.perlbench: `-xAVX(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: `-xAVX(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: `-xAVX(pass 2) -prof-gen(pass 1) -prof-use(pass 2)`
`-ansi-alias`

456.hmmer: `basepeak = yes`

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Peak Optimization Flags (Continued)

```
      458.sjeng: -xAVX(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: -xAVX(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: -xAVX(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: -xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
                 -Wl,-z,muldefs -L/sh -lsmartheap64

   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/Fujitsu-Platform.20131009.html

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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.20131009.xml

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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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