SPEC® CINT2006 Result

Fujitsu

PRIMERGY BX922 S2, Intel Xeon E5645, 2.40 GHz

SPECint®_rate2006 = 163

SPECint_rate_base2006 = 153

CPU2006 license: 19	**Test date:** Jan-2011
Test sponsor: Fujitsu	**Hardware Availability:** Feb-2011
Tested by: Fujitsu	**Software Availability:** Jan-2011

Copies — graph scale: 0 30.0 60.0 90.0 120 150 180 210 240 270 300 330 360 390 420 450 480 510 540 570 600 630 660 690 720 770

Benchmark	Copies	Value
400.perlbench	12	156
400.perlbench	12	128
401.bzip2	12	97.5
401.bzip2	12	91.7
403.gcc	12	108
403.gcc	12	108
429.mcf	6	183
429.mcf	12	143
445.gobmk	12	152
445.gobmk	12	144
456.hmmer	6	216
456.hmmer	12	194
458.sjeng	12	149
458.sjeng	12	141
462.libquantum	12	768
464.h264ref	12	199
471.omnetpp	12	112
471.omnetpp	12	107
473.astar	12	94.7
483.xalancbmk	12	153

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Hardware

CPU Name:	Intel Xeon E5645
CPU Characteristics:	Intel Turbo Boost Technology up to 2.80 GHz
CPU MHz:	2400
FPU:	Integrated
CPU(s) enabled:	6 cores, 1 chip, 6 cores/chip, 2 threads/core
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:	12 MB I+D on chip per chip
Other Cache:	None
Memory:	24 GB (6 x 4 GB 2Rx4 PC3-10600R-9, ECC)
Disk Subsystem:	1 x SAS, 300 GB, 10000 RPM
Other Hardware:	--

Software

Operating System:	SUSE Linux Enterprise Server 11 (x86_64) with SP1, Kernel 2.6.32.12-0.7-default
Compiler:	Intel C++ Compiler XE for applications running on IA-32 Version 12.0.1.116 Build 20101116
Auto Parallel:	No
File System:	ext3
System State:	Run level 3 (multi-user)
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	Microquill SmartHeap V9.01

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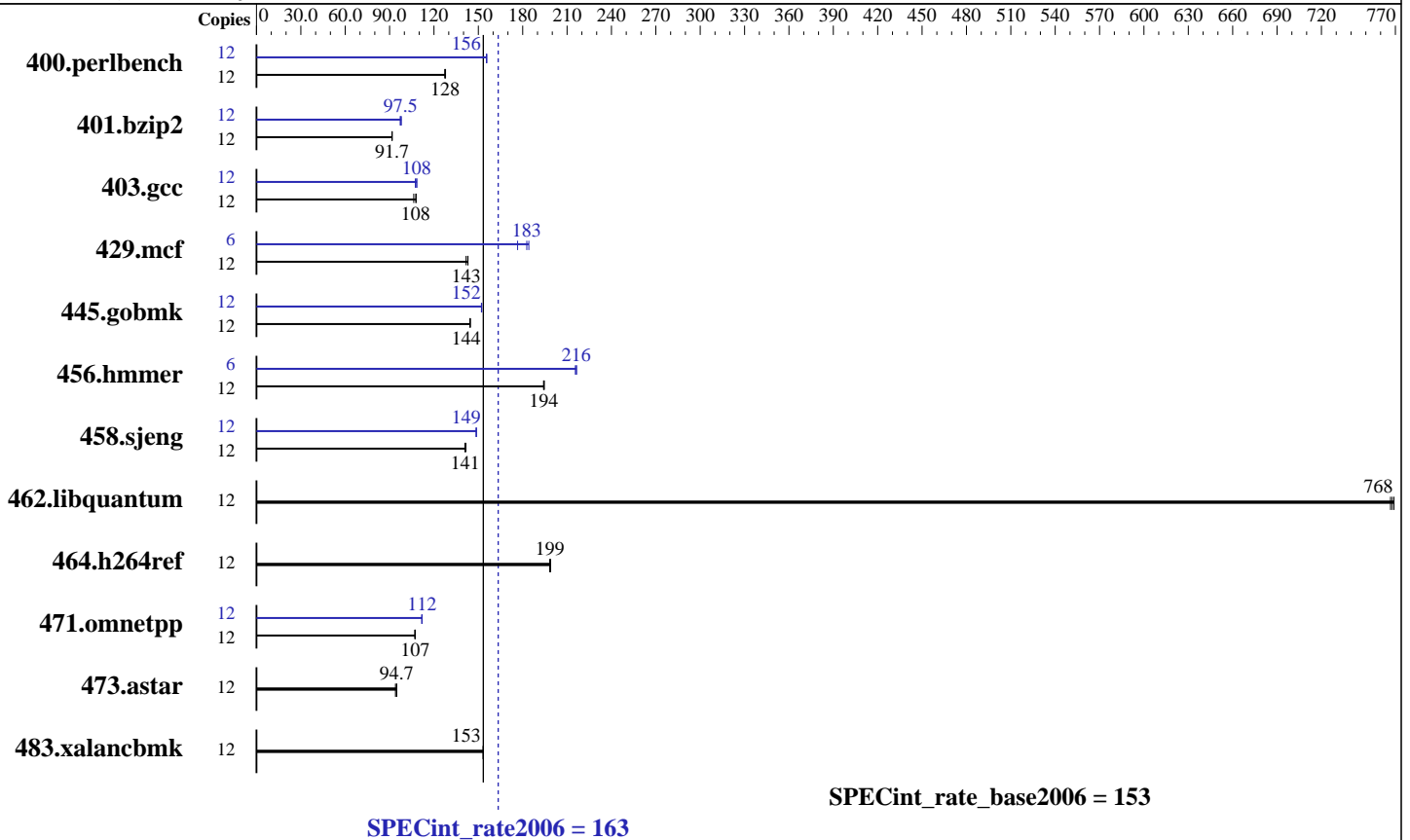SPECint_rate_base2006 = 153

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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	12	917	128	921	127	**919**	**128**	12	**754**	**156**	754	155	753	156
401.bzip2	12	1264	91.6	1262	91.7	**1263**	**91.7**	12	**1188**	**97.5**	1182	98.0	1191	97.2
403.gcc	12	895	108	908	106	**897**	**108**	12	891	108	899	107	**892**	**108**
429.mcf	12	**766**	**143**	765	143	772	142	6	310	177	**299**	**183**	297	184
445.gobmk	12	870	145	872	144	**872**	**144**	12	828	152	**827**	**152**	826	152
456.hmmer	12	575	195	577	194	**576**	**194**	6	**259**	**216**	260	216	259	216
458.sjeng	12	**1029**	**141**	1025	142	1030	141	12	**977**	**149**	977	149	978	149
462.libquantum	12	324	767	**324**	**768**	323	769	12	324	767	**324**	**768**	323	769
464.h264ref	12	1339	198	1335	199	**1337**	**199**	12	1339	198	1335	199	**1337**	**199**
471.omnetpp	12	698	107	701	107	**699**	**107**	12	670	112	**670**	**112**	671	112
473.astar	12	896	94.0	888	94.8	**890**	**94.7**	12	896	94.0	888	94.8	**890**	**94.7**
483.xalancbmk	12	**540**	**153**	540	153	541	153	12	**540**	**153**	540	153	541	153

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.
 numactl was used to bind copies to the cores
```

Operating System Notes

```
 'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
 Hugepages were not configured on the system
```

Platform Notes

```
 BIOS configuration:
 Data Reuse Optimization = Disable
 Performance/Power Setting = Traditional
```

General Notes

```
 For information about Fujitsu please visit: http://www.fujitsu.com
 Binaries were compiled on RHEL5.5 with binutils-2.17.50.0.6-14.el5
```

Base Compiler Invocation

C benchmarks:
```
     icc  -m32
```

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Base Compiler Invocation (Continued)

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
    -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

C++ benchmarks:
    -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
    -L/smartheap -lsmartheap
    -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

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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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)
               -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

   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
               -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

     403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div
               -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

     429.mcf: -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 -auto-ilp32

   445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
               -ansi-alias -auto-ilp32

   456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
               -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

   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
               -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

462.libquantum: basepeak = yes

  464.h264ref: basepeak = yes
```

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/smartheap -lsmartheap
```

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Peak Optimization Flags (Continued)

473.astar: `basepeak = yes`

483.xalancbmk: `basepeak = yes`

Peak Other Flags

C benchmarks:

403.gcc: `-Dalloca=_alloca`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revA.20110222.00.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revA.20110222.00.xml`

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

Tested with SPEC CPU2006 v1.1.
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