SPEC® CFP2006 Result
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Fujitsu

PRIMERGY RX100 S7, Intel Pentium G620, 2.60 GHz

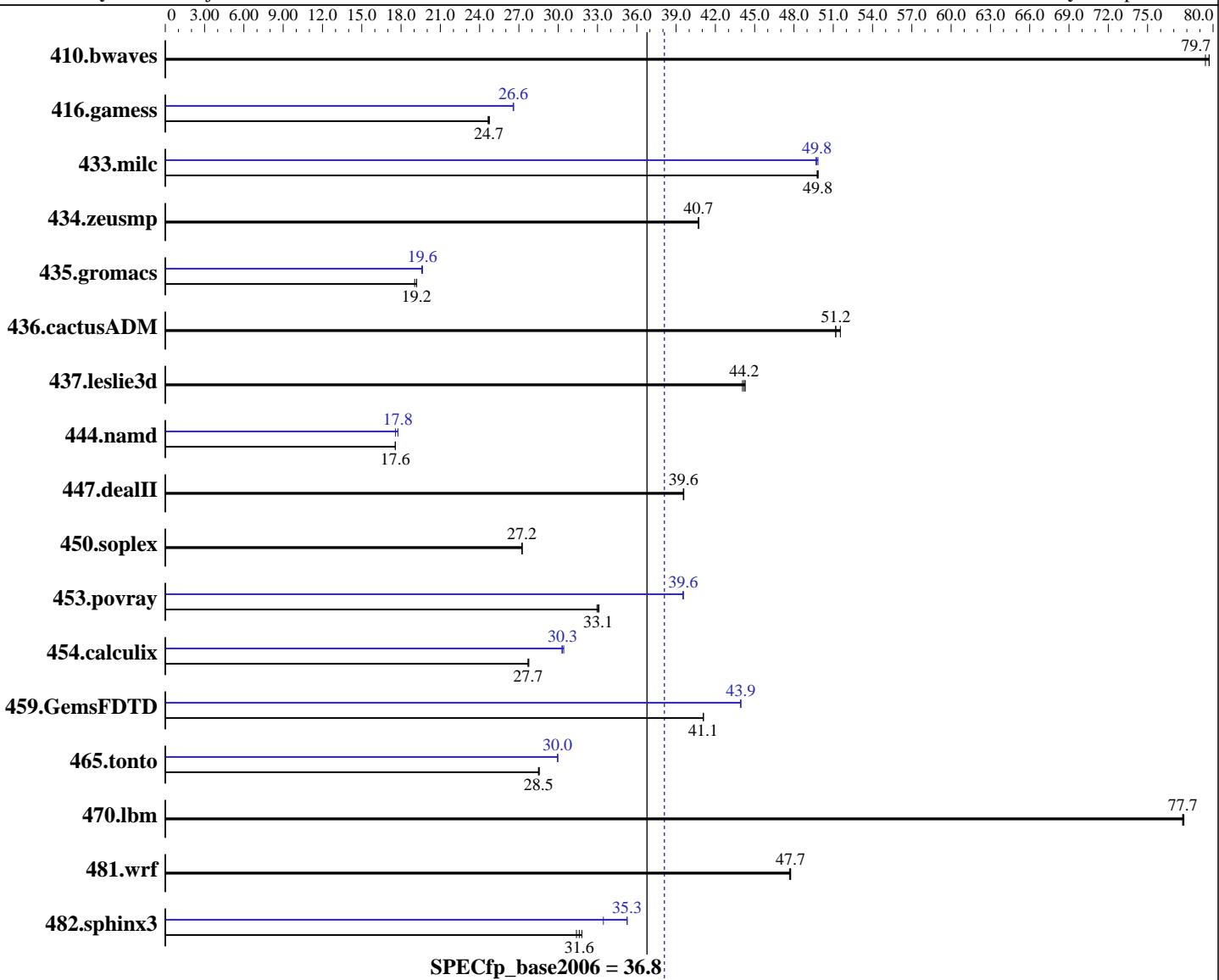$SPECfp^{®}2006 =$ 38.1

$SPECfp\_base2006 =$ 36.8

CPU2006 license: 19	**Test date:** May-2011
Test sponsor: Fujitsu	**Hardware Availability:** Jun-2011
Tested by: Fujitsu	**Software Availability:** Apr-2011

410.bwaves 79.7
416.gamess 26.6 / 24.7
433.milc 49.8 / 49.8
434.zeusmp 40.7
435.gromacs 19.6 / 19.2
436.cactusADM 51.2
437.leslie3d 44.2
444.namd 17.8 / 17.6
447.dealII 39.6
450.soplex 27.2
453.povray 39.6 / 33.1
454.calculix 30.3 / 27.7
459.GemsFDTD 43.9 / 41.1
465.tonto 30.0 / 28.5
470.lbm 77.7
481.wrf 47.7
482.sphinx3 35.3 / 31.6

SPECfp_base2006 = 36.8
SPECfp2006 = 38.1

Hardware
CPU Name: Intel Pentium G620
CPU Characteristics:
CPU MHz: 2600
FPU: Integrated
CPU(s) enabled: 2 cores, 1 chip, 2 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

Software
Operating System: SUSE Linux Enterprise Server 11 (x86_64) SP1, Kernel 2.6.32.12-0.7-default
Compiler: Intel C++ and Fortran Intel 64 Compiler XE for applications running on Intel 64 Version 12.0 Update 3
Auto Parallel: Yes
File System: ext3
System State: Run level 3 (multi-user)
Base Pointers: 64-bit

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L3 Cache:	3 MB I+D on chip per chip	Peak Pointers:	32/64-bit
Other Cache:	None	Other Software:	None
Memory:	8 GB (2 x 4 GB 2Rx8 PC3-10600E-9, ECC, running at 1067 MHz and CL7)		
Disk Subsystem:	1 x SATA, 300 GB, 7200 RPM		
Other Hardware:	None		

Results Table

Benchmark	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio
410.bwaves	171	79.4	**171**	**79.7**	171	79.7	171	79.4	**171**	**79.7**	171	79.7
416.gamess	794	24.6	**793**	**24.7**	791	24.7	736	26.6	737	26.6	**737**	**26.6**
433.milc	184	49.8	184	49.9	**184**	**49.8**	**185**	**49.8**	184	49.8	185	49.7
434.zeusmp	224	40.7	224	40.7	**224**	**40.7**	224	40.7	224	40.7	**224**	**40.7**
435.gromacs	375	19.0	372	19.2	**372**	**19.2**	364	19.6	365	19.6	**364**	**19.6**
436.cactusADM	232	51.5	**233**	**51.2**	233	51.2	232	51.5	**233**	**51.2**	233	51.2
437.leslie3d	**213**	**44.2**	213	44.1	212	44.3	**213**	**44.2**	213	44.1	212	44.3
444.namd	456	17.6	**457**	**17.6**	457	17.6	**452**	**17.8**	451	17.8	456	17.6
447.dealII	289	39.6	289	39.6	**289**	**39.6**	289	39.6	289	39.6	**289**	**39.6**
450.soplex	**306**	**27.2**	306	27.3	306	27.2	**306**	**27.2**	306	27.3	306	27.2
453.povray	161	33.1	161	33.0	**161**	**33.1**	134	39.6	135	39.5	**135**	**39.6**
454.calculix	298	27.7	**298**	**27.7**	297	27.8	271	30.4	272	30.3	**272**	**30.3**
459.GemsFDTD	**258**	**41.1**	258	41.1	258	41.1	**241**	**43.9**	241	43.9	242	43.9
465.tonto	345	28.6	345	28.5	**345**	**28.5**	329	29.9	328	30.0	**329**	**30.0**
470.lbm	177	77.7	**177**	**77.7**	177	77.8	177	77.7	**177**	**77.7**	177	77.8
481.wrf	**234**	**47.7**	234	47.7	234	47.7	**234**	**47.7**	234	47.7	234	47.7
482.sphinx3	613	31.8	**617**	**31.6**	621	31.4	583	33.5	**553**	**35.3**	553	35.3

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

Operating System Notes

```
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
'nodev /mnt/hugepages hugetlbfs defaults 0 0' added to /etc/fstab
echo 900 > /proc/sys/vm/nr_hugepages
export HUGETLB_MORECORE=yes
export LD_PRELOAD=/usr/lib64/libhugetlbfs.so
```

Platform Notes

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General Notes

```
OMP_NUM_THREADS set to number of cores
For information about Fujitsu please visit: http://www.fujitsu.com
Binaries were compiled on RHEL5.5
```

Base Compiler Invocation

C benchmarks:
```
icc   -m64
```

C++ benchmarks:
```
icpc   -m64
```

Fortran benchmarks:
```
ifort -m64
```

Benchmarks using both Fortran and C:
```
icc   -m64 ifort -m64
```

Base Portability Flags

```
    410.bwaves: -DSPEC_CPU_LP64
    416.gamess: -DSPEC_CPU_LP64
      433.milc: -DSPEC_CPU_LP64
    434.zeusmp: -DSPEC_CPU_LP64
   435.gromacs: -DSPEC_CPU_LP64 -nofor_main
 436.cactusADM: -DSPEC_CPU_LP64 -nofor_main
   437.leslie3d: -DSPEC_CPU_LP64
      444.namd: -DSPEC_CPU_LP64
     447.dealII: -DSPEC_CPU_LP64
     450.soplex: -DSPEC_CPU_LP64
    453.povray: -DSPEC_CPU_LP64
    454.calculix: -DSPEC_CPU_LP64 -nofor_main
  459.GemsFDTD: -DSPEC_CPU_LP64
      465.tonto: -DSPEC_CPU_LP64
       470.lbm: -DSPEC_CPU_LP64
       481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
    482.sphinx3: -DSPEC_CPU_LP64
```

Base Optimization Flags

C benchmarks:
```
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
-ansi-alias
```

C++ benchmarks:
```
-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch -ansi-alias
```

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Base Optimization Flags (Continued)

Fortran benchmarks:
```
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
```

Benchmarks using both Fortran and C:
```
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
-ansi-alias
```

Peak Compiler Invocation

C benchmarks:
```
icc    -m64
```

C++ benchmarks:
```
icpc   -m64
```

Fortran benchmarks:
```
ifort -m64
```

Benchmarks using both Fortran and C:
```
icc    -m64 ifort -m64
```

Peak Portability Flags

```
Same as Base Portability Flags
```

Peak Optimization Flags

C benchmarks:

```
433.milc: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
          -no-prec-div(pass 2) -prof-use(pass 2) -static -auto-ilp32
          -ansi-alias

470.lbm: basepeak = yes

482.sphinx3: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -ansi-alias
          -parallel
```

C++ benchmarks:

```
444.namd: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
          -no-prec-div(pass 2) -prof-use(pass 2) -fno-alias
          -auto-ilp32
```

Continued on next page

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Peak Optimization Flags (Continued)

447.dealII: basepeak = yes

450.soplex: basepeak = yes

453.povray: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -ansi-alias
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

Fortran benchmarks:

410.bwaves: basepeak = yes

416.gamess: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -unroll2
-inline-level=0 -scalar-rep- -static

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -unroll2
-inline-level=0 -opt-prefetch -parallel
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

465.tonto: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -inline-calloc
-opt-malloc-options=3 -auto -unroll4
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

Benchmarks using both Fortran and C:

435.gromacs: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -static -auto-ilp32
-ansi-alias

436.cactusADM: basepeak = yes

454.calculix: -xSSE4.2 -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias

481.wrf: basepeak = yes

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.20110316.html
http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20110705.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.20110316.xml
http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20110705.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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