SPEC® CFP2006 Result

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Fujitsu

PRIMERGY TX100 S3p, Intel Core i3-3220, 3.30 GHz

$SPECfp^{®}2006 =$ 55.0

$SPECfp\_base2006 =$ 53.8

CPU2006 license: 19	**Test date:** May-2012
Test sponsor: Fujitsu	**Hardware Availability:** Sep-2012
Tested by: Fujitsu	**Software Availability:** Feb-2012

Benchmark	base	peak
410.bwaves	105	106
416.gamess	34.4	36.8
433.milc	72.2	73.5
434.zeusmp	78.0	
435.gromacs	29.4	
436.cactusADM	96.7	
437.leslie3d	63.7	
444.namd	23.0	23.4
447.dealII	58.4	58.6
450.soplex	36.6	
453.povray	44.5	51.2
454.calculix	42.0	43.1
459.GemsFDTD	49.7	51.7
465.tonto	41.3	43.6
470.lbm	104	
481.wrf	76.8	
482.sphinx3	47.8	

SPECfp_base2006 = 53.8

SPECfp2006 = 55.0

Hardware

CPU Name:	Intel Core i3-3220
CPU Characteristics:	
CPU MHz:	3300
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

Continued on next page

Software

Operating System:	Red Hat Enterprise Linux Server release 6.2 (Santiago) 2.6.32-220.el6.x86_64
Compiler:	C/C++: Version 12.1.0.293 of Intel C++ Studio XE for Linux; Fortran: Version 12.1.0.293 of Intel Fortran Studio XE for Linux
Auto Parallel:	Yes
File System:	ext4

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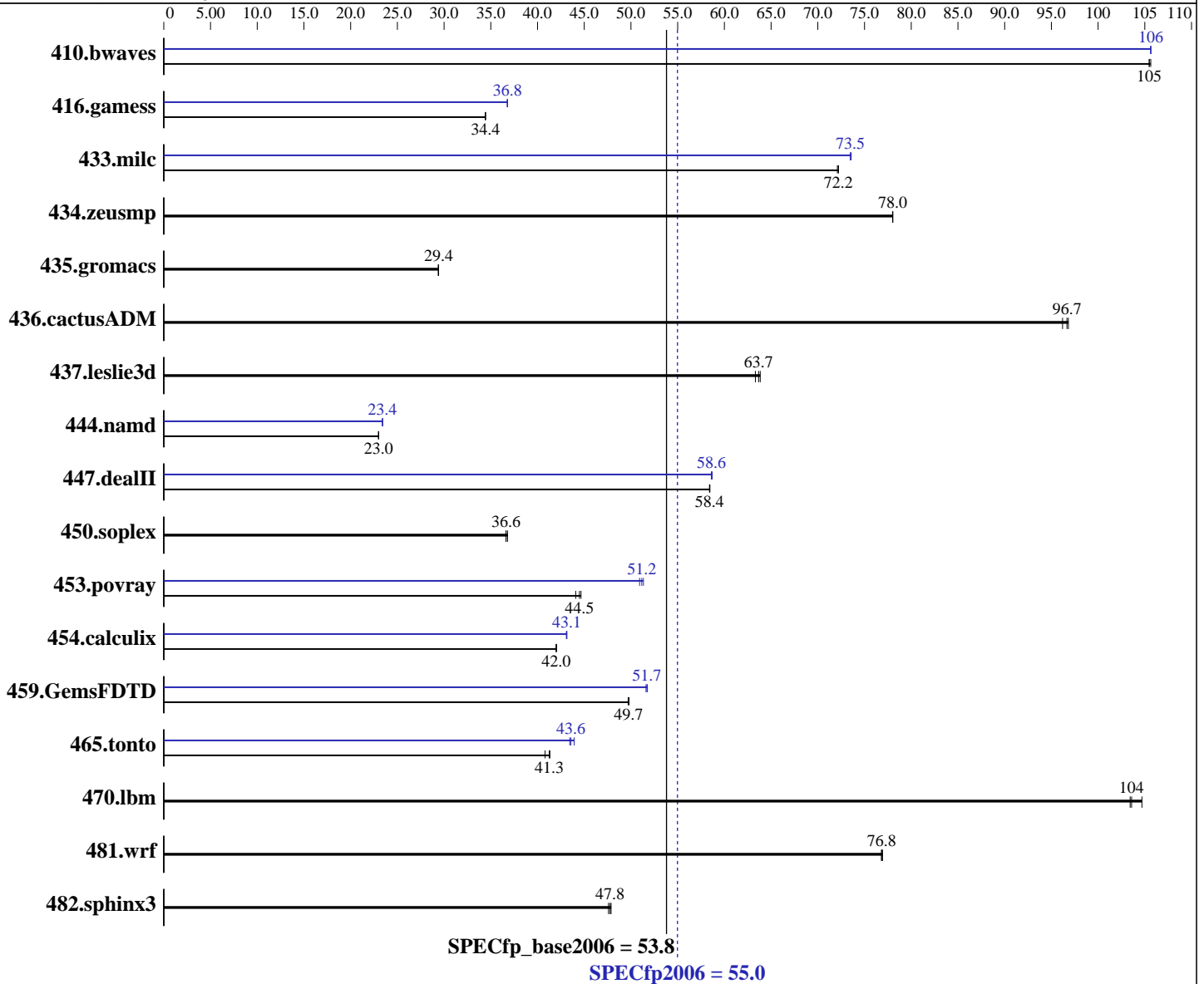|	
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L3 Cache:	3 MB I+D on chip per chip	System State:	Run level 3 (multi-user)
Other Cache:	None	Base Pointers:	64-bit
Memory:	16 GB (2 x 8 GB 2Rx8 PC3-12800E-11, ECC)	Peak Pointers:	32/64-bit
Disk Subsystem:	1 x SATA, 500 GB, 7200 RPM	Other Software:	None
Other Hardware:	None		

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	**129**	**105**	129	105	129	106	129	106	**129**	**106**	129	106
416.gamess	**569**	**34.4**	569	34.4	569	34.4	533	36.8	532	36.8	**532**	**36.8**
433.milc	127	72.2	**127**	**72.2**	127	72.1	125	73.5	**125**	**73.5**	125	73.6
434.zeusmp	117	78.0	**117**	**78.0**	117	78.0	117	78.0	**117**	**78.0**	117	78.0
435.gromacs	**243**	**29.4**	243	29.4	243	29.4	**243**	**29.4**	243	29.4	243	29.4
436.cactusADM	124	96.2	**124**	**96.7**	123	96.8	124	96.2	**124**	**96.7**	123	96.8
437.leslie3d	148	63.3	**148**	**63.7**	147	63.8	148	63.3	**148**	**63.7**	147	63.8
444.namd	349	23.0	**349**	**23.0**	349	23.0	342	23.4	**343**	**23.4**	343	23.4
447.dealII	196	58.5	**196**	**58.4**	196	58.4	195	58.6	195	58.7	**195**	**58.6**
450.soplex	227	36.8	**228**	**36.6**	228	36.6	227	36.8	**228**	**36.6**	228	36.6
453.povray	119	44.7	**120**	**44.5**	121	44.1	104	51.3	**104**	**51.2**	104	50.9
454.calculix	196	42.0	**196**	**42.0**	196	42.0	**191**	**43.1**	191	43.1	191	43.1
459.GemsFDTD	**213**	**49.7**	213	49.8	213	49.7	206	51.6	**205**	**51.7**	205	51.8
465.tonto	241	40.8	238	41.3	**239**	**41.3**	226	43.4	224	43.9	**226**	**43.6**
470.lbm	**133**	**104**	131	105	133	103	**133**	**104**	131	105	133	103
481.wrf	145	76.9	145	76.8	**145**	**76.8**	145	76.9	145	76.8	**145**	**76.8**
482.sphinx3	**408**	**47.8**	410	47.6	407	47.9	**408**	**47.8**	410	47.6	407	47.9

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

Platform Notes

```
BIOS configuration:
Intel HT Technology = Disable
```

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General Notes

```
Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,scatter"
LD_LIBRARY_PATH = "/SPECcpu2006/libs/32:/SPECcpu2006/libs/64"
OMP_NUM_THREADS = "2"

 Binaries compiled on a system with 1x E3-1270v2 CPU + 32 GB
 memory using RHEL6.2
 For information about Fujitsu please visit: http://www.fujitsu.com
```

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
```

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Base Optimization Flags

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

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

Fortran benchmarks:
```
-xAVX -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
```

Benchmarks using both Fortran and C:
```
-xAVX -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: -xAVX(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: basepeak = yes
```

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Peak Optimization Flags (Continued)

C++ benchmarks:

444.namd: `-xAVX(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`

447.dealII: `-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch`
`-ansi-alias`

450.soplex: `basepeak = yes`

453.povray: `-xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)`
`-no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -ansi-alias`

Fortran benchmarks:

410.bwaves: `-xAVX -ipo -O3 -no-prec-div -opt-prefetch -parallel`
`-static`

416.gamess: `-xAVX(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`

465.tonto: `-xAVX(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`

Benchmarks using both Fortran and C:

435.gromacs: `basepeak = yes`

436.cactusADM: `basepeak = yes`

454.calculix: `-xAVX -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-ic12.1-official-linux64.20111122.html
http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20120320.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-ic12.1-official-linux64.20111122.xml
http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20120320.xml