



SPEC[®] CFP2006 Result

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Fujitsu

SPECfp[®]2006 = **73.6**

PRIMERGY TX300 S7, Intel Xeon E5-2640, 2.50 GHz

SPECfp_base2006 = **70.1**

CPU2006 license: 19

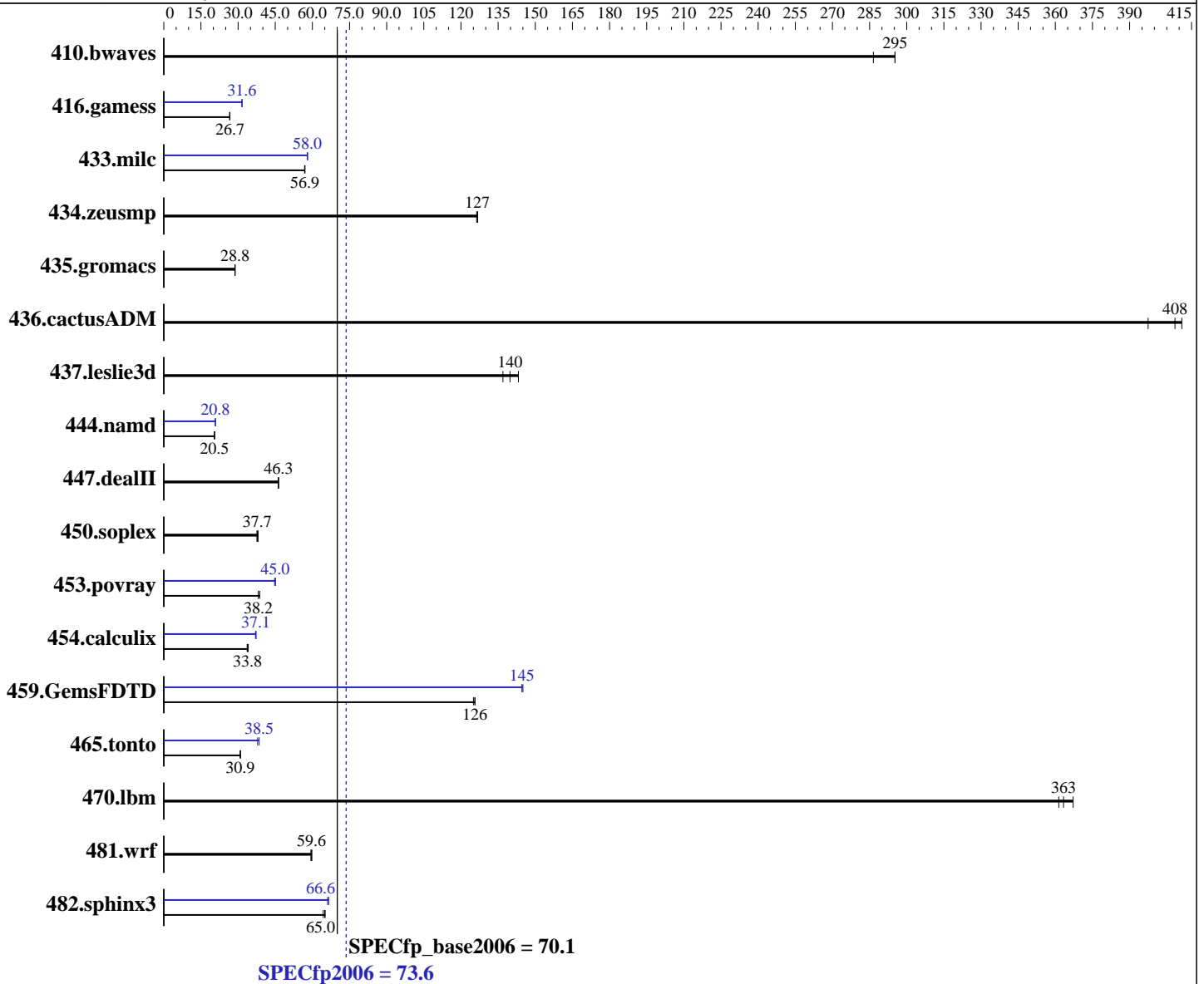
Test date: Jan-2012

Test sponsor: Fujitsu

Hardware Availability: Mar-2012

Tested by: Fujitsu

Software Availability: Dec-2011



Hardware

CPU Name: Intel Xeon E5-2640
 CPU Characteristics: Intel Turbo Boost Technology up to 3.0 GHz
 CPU MHz: 2500
 FPU: Integrated
 CPU(s) enabled: 12 cores, 2 chips, 6 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

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 12.1.0.225 of Intel C++ Studio XE for Linux;
 Fortran: Version 12.1.0.225 of Intel Fortran Studio XE for Linux
 Auto Parallel: Yes
 File System: ext4

Continued on next page



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L3 Cache: 15 MB I+D on chip per chip
Other Cache: None
Memory: 128 GB (16 x 8 GB 2Rx4 PC3L-12800R-11, ECC, running at 1333 MHz and CL9)
Disk Subsystem: 1 x SATA, 500 GB, 7200 RPM
Other Hardware: None

System State: Run level 3 (multi-user)
Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: None

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	47.4	287	46.0	295	46.0	295	47.4	287	46.0	295	46.0	295
416.gamess	733	26.7	737	26.6	733	26.7	620	31.6	619	31.6	621	31.5
433.milc	161	57.0	161	56.9	161	56.9	158	58.0	158	58.0	158	58.0
434.zeusmp	72.0	126	71.8	127	71.8	127	72.0	126	71.8	127	71.8	127
435.gromacs	249	28.7	248	28.8	248	28.8	249	28.7	248	28.8	248	28.8
436.cactusADM	29.1	411	30.1	397	29.3	408	29.1	411	30.1	397	29.3	408
437.leslie3d	68.6	137	65.6	143	67.2	140	68.6	137	65.6	143	67.2	140
444.namd	391	20.5	391	20.5	391	20.5	385	20.8	385	20.8	385	20.8
447.dealII	247	46.3	247	46.3	247	46.2	247	46.3	247	46.3	247	46.2
450.soplex	221	37.7	219	38.1	222	37.6	221	37.7	219	38.1	222	37.6
453.povray	140	38.1	137	38.8	139	38.2	118	45.1	118	45.0	119	44.7
454.calculix	244	33.8	245	33.7	242	34.1	222	37.1	221	37.3	223	37.0
459.GemsFDTD	84.5	126	84.9	125	84.5	126	73.1	145	73.3	145	73.3	145
465.tonto	318	31.0	319	30.9	319	30.9	256	38.5	256	38.5	260	37.9
470.lbm	37.8	363	37.4	367	38.0	361	37.8	363	37.4	367	38.0	361
481.wrf	188	59.4	187	59.8	187	59.6	188	59.4	187	59.8	187	59.6
482.sphinx3	299	65.2	303	64.4	300	65.0	292	66.6	293	66.6	295	66.1

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 configuration:
Intel HT Technology = Disable
Frequency Floor Override = Enable



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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 = "12"
```

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RHEL5.5

Transparent Huge Pages enabled with:

```
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
```

This result was measured on the PRIMERGY RX350 S7. The PRIMERGY RX350 S7 and the PRIMERGY TX300 S7 are electronically equivalent.

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: -xAVX -ipo -O3 -no-prec-div -unroll2 -ansi-alias
-parallel`

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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.dealIII: basepeak = yes

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: basepeak = yes

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: -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 -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/Fujitsu-Platform.20120320.html>

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20120320.xml>

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml>



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For other inquiries, please contact webmaster@spec.org.

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