



SPEC[®] CFP2006 Result

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Fujitsu

PRIMERGY RX2540 M1, Intel Xeon E5-2667 v3, 3.20 GHz

SPECfp[®]2006 = **118**

SPECfp_base2006 = **114**

CPU2006 license: 19

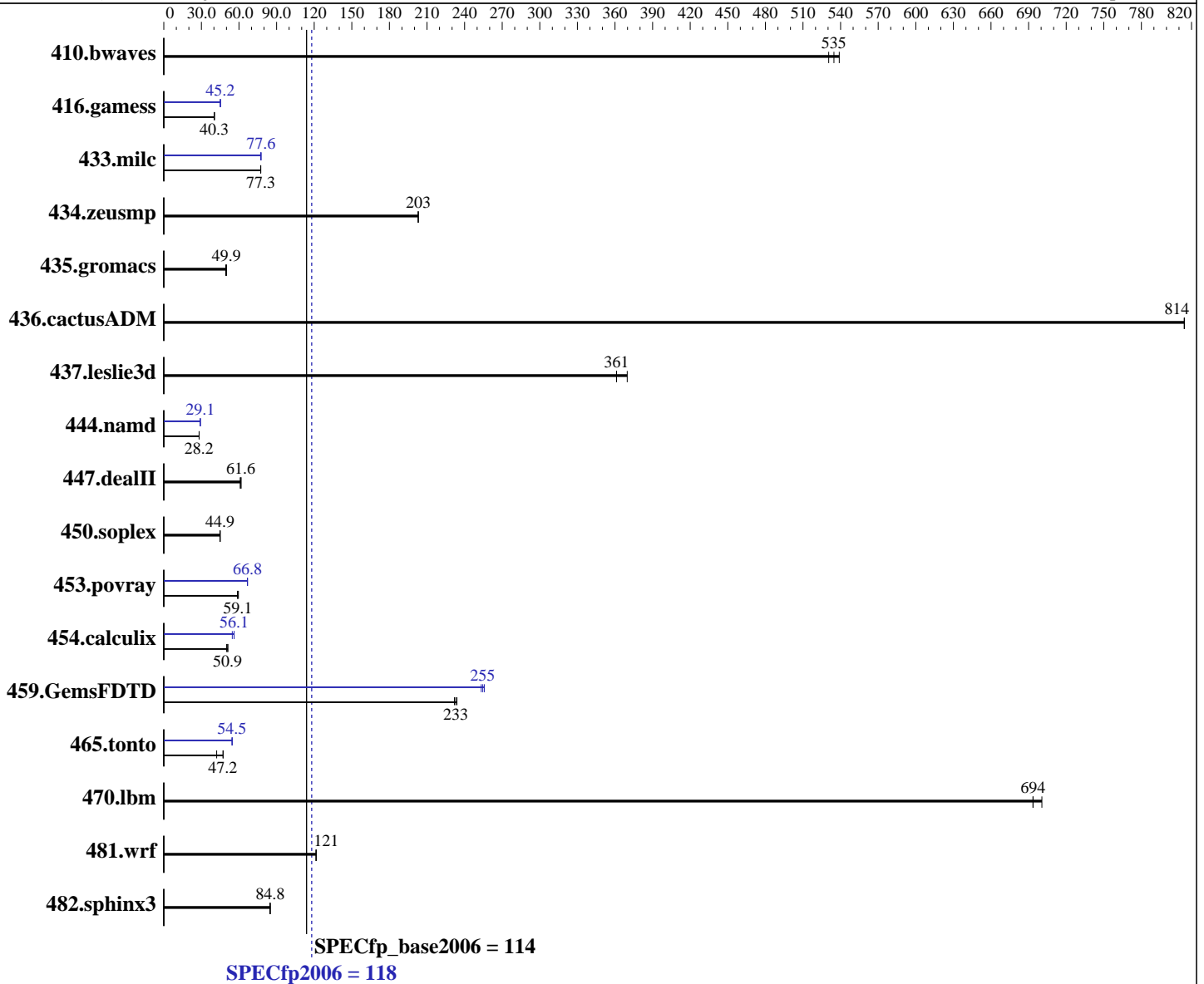
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Aug-2014

Hardware Availability: Sep-2014

Software Availability: Sep-2013



Hardware

CPU Name: Intel Xeon E5-2667 v3
 CPU Characteristics: Intel Turbo Boost Technology up to 3.60 GHz
 CPU MHz: 3200
 FPU: Integrated
 CPU(s) enabled: 16 cores, 2 chips, 8 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

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Software

Operating System: SLES11 Linux Enterprise Server SP3 (x86_64)
 3.0.76-0.11-default
 Compiler: C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux;
 Fortran: Version 14.0.0.080 of Intel Fortran Studio XE for Linux
 Auto Parallel: Yes
 File System: ext4
 System State: Run level 3 (multi-user)

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L3 Cache: 20 MB I+D on chip per chip
Other Cache: None
Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R)
Disk Subsystem: 1 x SATA, 500 GB, 7200 RPM
Other Hardware: None

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	25.6	531	25.2	539	<u>25.4</u>	<u>535</u>	25.6	531	25.2	539	<u>25.4</u>	<u>535</u>
416.gamess	<u>485</u>	<u>40.3</u>	485	40.4	487	40.2	<u>433</u>	<u>45.2</u>	433	45.2	435	45.0
433.milc	119	77.3	119	77.4	<u>119</u>	<u>77.3</u>	119	77.2	<u>118</u>	<u>77.6</u>	118	77.6
434.zeusmp	44.8	203	44.8	203	<u>44.8</u>	<u>203</u>	44.8	203	44.8	203	<u>44.8</u>	<u>203</u>
435.gromacs	<u>143</u>	<u>49.9</u>	143	50.0	144	49.4	<u>143</u>	<u>49.9</u>	143	50.0	144	49.4
436.cactusADM	<u>14.7</u>	<u>814</u>	14.7	814	14.7	814	<u>14.7</u>	<u>814</u>	14.7	814	14.7	814
437.leslie3d	<u>26.0</u>	<u>361</u>	25.4	370	26.0	361	<u>26.0</u>	<u>361</u>	25.4	370	26.0	361
444.namd	<u>285</u>	<u>28.2</u>	285	28.2	285	28.2	275	29.1	276	29.1	<u>276</u>	<u>29.1</u>
447.dealII	186	61.6	<u>186</u>	<u>61.6</u>	188	60.9	186	61.6	<u>186</u>	<u>61.6</u>	188	60.9
450.soplex	186	44.9	<u>186</u>	<u>44.9</u>	186	44.9	186	44.9	<u>186</u>	<u>44.9</u>	186	44.9
453.povray	89.4	59.5	<u>90.0</u>	<u>59.1</u>	90.6	58.7	<u>79.7</u>	<u>66.8</u>	79.6	66.8	79.8	66.7
454.calculix	<u>162</u>	<u>50.9</u>	161	51.1	165	50.1	<u>147</u>	<u>56.1</u>	147	56.1	151	54.6
459.GemsFDTD	45.8	232	45.4	234	<u>45.6</u>	<u>233</u>	41.5	256	41.9	253	<u>41.7</u>	<u>255</u>
465.tonto	<u>208</u>	<u>47.2</u>	233	42.2	208	47.4	180	54.6	<u>181</u>	<u>54.5</u>	181	54.5
470.lbm	19.8	694	19.6	701	<u>19.8</u>	<u>694</u>	19.8	694	19.6	701	<u>19.8</u>	<u>694</u>
481.wrf	<u>92.0</u>	<u>121</u>	92.0	121	91.8	122	<u>92.0</u>	<u>121</u>	92.0	121	91.8	122
482.sphinx3	229	85.0	230	84.7	<u>230</u>	<u>84.8</u>	229	85.0	230	84.7	<u>230</u>	<u>84.8</u>

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:
Energy Performance = Performance
Utilization Profile = Unbalanced
QPI snoop mode: Home Snoop
COD Enable = Disabled, Early Snoop = Disabled
CPU ClE Support = Disabled
QPI Link Frequency Select = 6.4 GT/s



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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 = "16"

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
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>

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:
-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch
-ansi-alias

C++ benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias

Fortran benchmarks:
-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch

Benchmarks using both Fortran and C:
-xCORE-AVX2 -ipo -O3 -no-prec-div -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: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-auto-ilp32 -ansi-alias

470.lbm: basepeak = yes

482.sphinx3: basepeak = yes

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Peak Optimization Flags (Continued)

C++ benchmarks:

444.namd: -xCORE-AVX2(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: basepeak = yes

450.soplex: basepeak = yes

453.povray: -xCORE-AVX2(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: -xCORE-AVX2(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-

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: -xCORE-AVX2(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: -xCORE-AVX2(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: -xCORE-AVX2 -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-Settings-V1.2-HSW-RevA.html>

<http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64-revB.html>



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

<http://www.spec.org/cpu2006/flags/Fujitsu-Platform-Settings-V1.2-HSW-RevA.xml>

<http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64-revB.xml>

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