



SPEC[®] CFP2006 Result

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Fujitsu

SPECfp[®]2006 = **62.2**

PRIMERGY RX300 S6, Intel Xeon X5675, 3.07 GHz

SPECfp_base2006 = **58.2**

CPU2006 license: 19

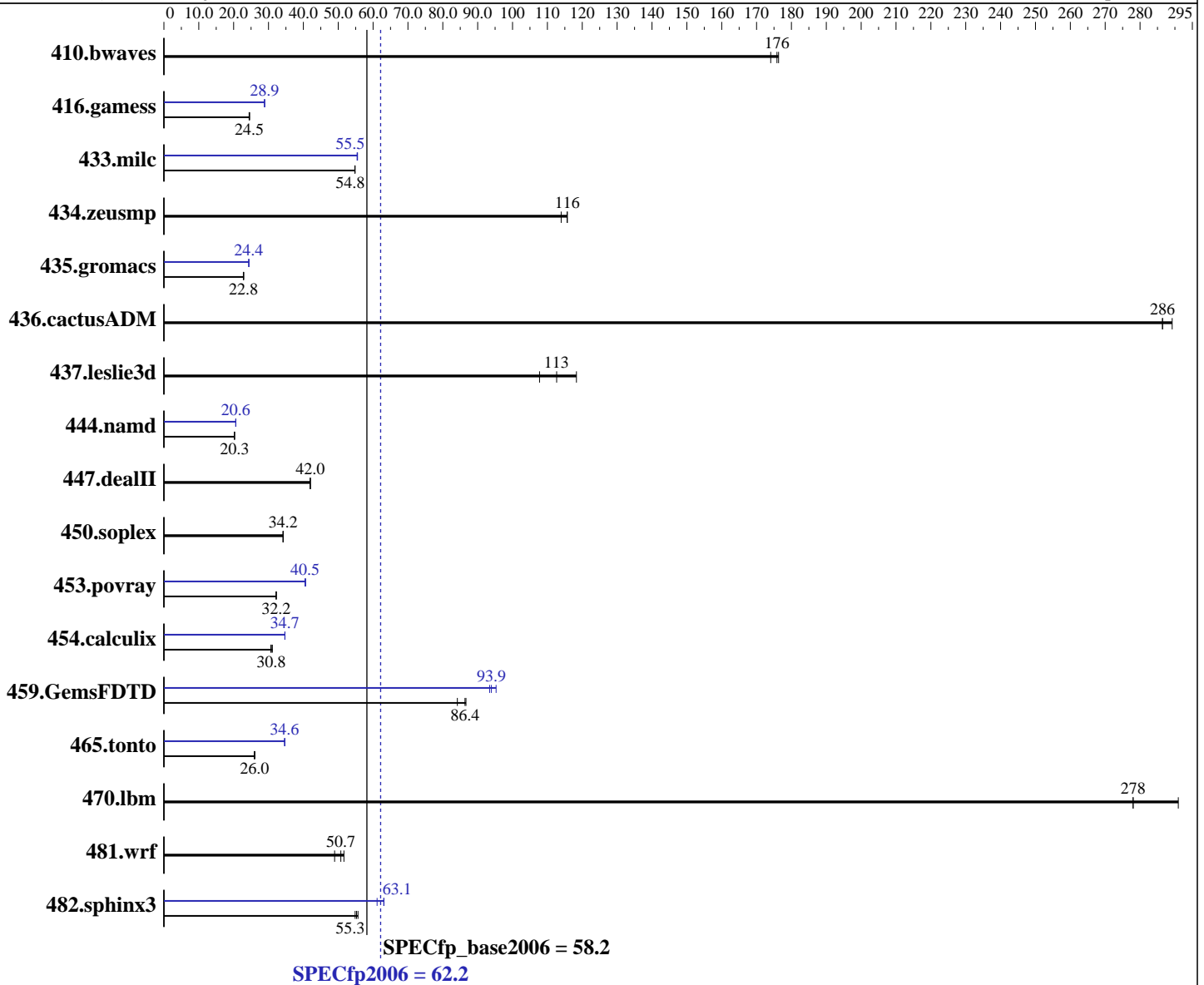
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Mar-2011

Hardware Availability: Feb-2011

Software Availability: Apr-2011



Hardware

CPU Name: Intel Xeon X5675
 CPU Characteristics: Intel Turbo Boost Technology up to 3.47 GHz
 CPU MHz: 3067
 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

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Software

Operating System: SUSE Linux Enterprise Server 11 (x86_64) with 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: 12 MB I+D on chip per chip
Other Cache: None
Memory: 48 GB (12 x 4 GB 2Rx4 PC3-10600R-9, ECC)
Disk Subsystem: 1 x SAS, 300 GB, 10000 RPM
Other Hardware: --

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	<u>77.3</u>	<u>176</u>	78.1	174	77.1	176	<u>77.3</u>	<u>176</u>	78.1	174	77.1	176
416.gamess	796	24.6	<u>799</u>	<u>24.5</u>	801	24.4	679	28.8	678	28.9	<u>678</u>	<u>28.9</u>
433.milc	167	54.9	<u>168</u>	<u>54.8</u>	168	54.8	<u>166</u>	<u>55.5</u>	166	55.4	165	55.5
434.zeusmp	79.9	114	78.7	116	<u>78.7</u>	<u>116</u>	79.9	114	78.7	116	<u>78.7</u>	<u>116</u>
435.gromacs	311	22.9	<u>313</u>	<u>22.8</u>	313	22.8	293	24.4	<u>293</u>	<u>24.4</u>	293	24.3
436.cactusADM	41.7	286	41.3	289	<u>41.7</u>	<u>286</u>	41.7	286	41.3	289	<u>41.7</u>	<u>286</u>
437.leslie3d	87.2	108	<u>83.4</u>	<u>113</u>	79.4	118	87.2	108	<u>83.4</u>	<u>113</u>	79.4	118
444.namd	396	20.3	<u>396</u>	<u>20.3</u>	397	20.2	<u>389</u>	<u>20.6</u>	389	20.6	389	20.6
447.dealII	<u>272</u>	<u>42.0</u>	272	42.0	273	41.9	<u>272</u>	<u>42.0</u>	272	42.0	273	41.9
450.soplex	244	34.2	244	34.2	<u>244</u>	<u>34.2</u>	244	34.2	244	34.2	<u>244</u>	<u>34.2</u>
453.povray	165	32.2	165	32.2	<u>165</u>	<u>32.2</u>	131	40.7	<u>131</u>	<u>40.5</u>	131	40.5
454.calculix	269	30.7	<u>268</u>	<u>30.8</u>	265	31.1	238	34.7	<u>238</u>	<u>34.7</u>	238	34.7
459.GemsFDTD	122	86.6	126	84.2	<u>123</u>	<u>86.4</u>	114	93.4	<u>113</u>	<u>93.9</u>	111	95.3
465.tonto	380	25.9	377	26.1	<u>379</u>	<u>26.0</u>	284	34.6	<u>284</u>	<u>34.6</u>	284	34.7
470.lbm	47.2	291	49.4	278	<u>49.4</u>	<u>278</u>	47.2	291	49.4	278	<u>49.4</u>	<u>278</u>
481.wrf	228	49.0	<u>220</u>	<u>50.7</u>	216	51.6	228	49.0	<u>220</u>	<u>50.7</u>	216	51.6
482.sphinx3	350	55.7	<u>353</u>	<u>55.3</u>	355	54.9	<u>309</u>	<u>63.1</u>	309	63.1	319	61.1

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
'nodetv /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/libhugepage.so
```

Platform Notes

BIOS configuration:
Data Reuse Optimization = Disable
Intel HT Technology = Disable



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General Notes

OMP_NUM_THREADS set to number of cores
This result was measured on the PRIMERGY TX300 S6. The PRIMERGY TX300 S6 and the PRIMERGY RX300 S6 are electronically equivalent.
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

Submitted_by: "Klassen, Peter" <peter.klassen@ts.fujitsu.com>
Submitted: Mon Mar 28 12:08:25 EDT 2011
Submission: cpu2006-20110328-15257.sub

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:
-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

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

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Peak Optimization Flags (Continued)

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

447.dealIII: 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



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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/Intel-ic12.0-linux64-revA.20110316.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/Intel-ic12.0-linux64-revA.20110316.xml>

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