SPEC® CFP2006 Result

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Fujitsu

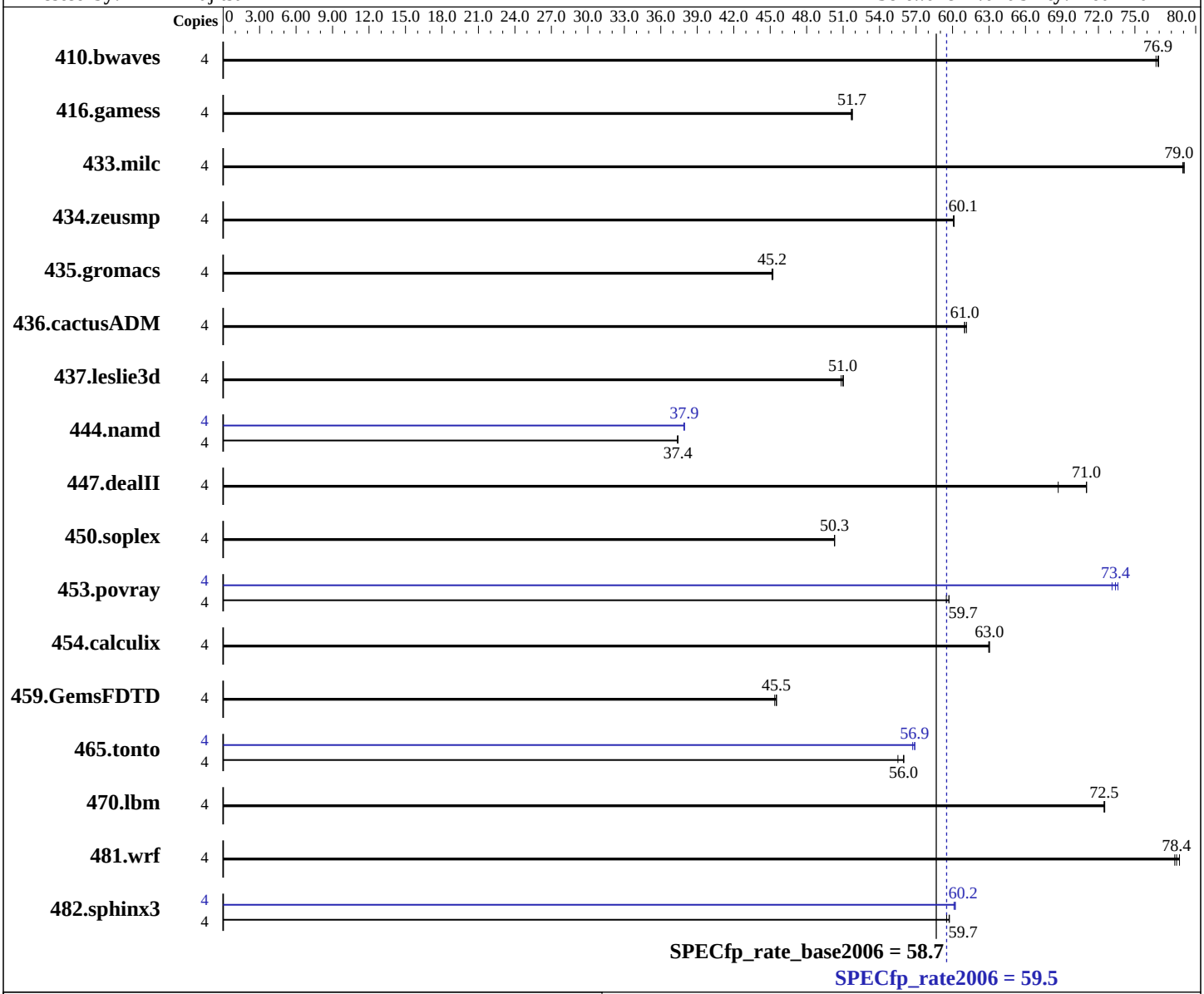
PRIMERGY BX924 S2, Intel Xeon E5603, 1.60 GHz

SPECfp®_rate2006 = 59.5

SPECfp_rate_base2006 = 58.7

CPU2006 license: 19
Test sponsor: Fujitsu
Tested by: Fujitsu

Test date: Feb-2011
Hardware Availability: Feb-2011
Software Availability: Jan-2011



Hardware

CPU Name:	Intel Xeon E5603
CPU Characteristics:	
CPU MHz:	1600
FPU:	Integrated
CPU(s) enabled:	4 cores, 1 chip, 4 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 12.0.1.116 Build 20101116
Auto Parallel:	No
File System:	ext3
System State:	Run level 3 (multi-user)
Base Pointers:	64-bit

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L3 Cache: 4 MB I+D on chip per chip
Other Cache: None
Memory: 48 GB (6 x 8 GB 2Rx4 PC3-10600R-9, ECC, running at 1067 MHz and CL7)
Disk Subsystem: 1 x SAS, 300 GB, 10000 RPM
Other Hardware: --

Peak Pointers: 32/64-bit
Other Software: None

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	708	76.7	**707**	**76.9**	706	77.0	4	708	76.7	**707**	**76.9**	706	77.0
416.gamess	4	1513	51.8	**1514**	**51.7**	1516	51.7	4	1513	51.8	**1514**	**51.7**	1516	51.7
433.milc	4	465	78.9	**465**	**79.0**	464	79.1	4	465	78.9	**465**	**79.0**	464	79.1
434.zeusmp	4	**605**	**60.1**	606	60.1	605	60.1	4	**605**	**60.1**	606	60.1	605	60.1
435.gromacs	4	633	45.1	**632**	**45.2**	631	45.2	4	633	45.1	**632**	**45.2**	631	45.2
436.cactusADM	4	782	61.1	784	61.0	**784**	**61.0**	4	782	61.1	784	61.0	**784**	**61.0**
437.leslie3d	4	**738**	**51.0**	737	51.0	740	50.8	4	**738**	**51.0**	737	51.0	740	50.8
444.namd	4	859	37.4	**858**	**37.4**	857	37.4	4	**846**	**37.9**	846	37.9	845	37.9
447.dealII	4	666	68.7	**644**	**71.0**	644	71.0	4	666	68.7	**644**	**71.0**	644	71.0
450.soplex	4	663	50.3	663	50.3	**663**	**50.3**	4	663	50.3	663	50.3	**663**	**50.3**
453.povray	4	**356**	**59.7**	358	59.5	356	59.7	4	291	73.1	289	73.6	**290**	**73.4**
454.calculix	4	524	63.0	**524**	**63.0**	524	63.0	4	524	63.0	**524**	**63.0**	524	63.0
459.GemsFDTD	4	932	45.5	**933**	**45.5**	935	45.4	4	932	45.5	**933**	**45.5**	935	45.4
465.tonto	4	703	56.0	**703**	**56.0**	709	55.5	4	**692**	**56.9**	692	56.9	694	56.7
470.lbm	4	758	72.5	758	72.5	**758**	**72.5**	4	758	72.5	758	72.5	**758**	**72.5**
481.wrf	4	**570**	**78.4**	571	78.3	568	78.7	4	**570**	**78.4**	571	78.3	568	78.7
482.sphinx3	4	**1306**	**59.7**	1305	59.7	1310	59.5	4	1294	60.2	1297	60.1	**1295**	**60.2**

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

Submit Notes

```
The config file option 'submit' was used.
 numactl was used to bind copies to the cores
```

Operating System Notes

```
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
Hugepages were not configured on the system
```

Platform Notes

```
BIOS configuration:
Data Reuse Optimization = Disable
Performance/Power Setting = Traditional
```

General Notes

```
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
```

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 -ansi-alias
```

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

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Base Optimization Flags (Continued)

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

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

Peak Compiler Invocation

C benchmarks (except as noted below):
`icc -m64`

482.sphinx3: `icc -m32`

C++ benchmarks:
`icpc -m64`

Fortran benchmarks:
`ifort -m64`

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

Peak 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`

Peak Optimization Flags

C benchmarks:

433.milc: basepeak = yes

470.lbm: basepeak = yes

482.sphinx3: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2

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.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: basepeak = yes

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

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) -unroll4 -auto -inline-calloc -opt-malloc-options=3 -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

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/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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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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