SPEC® CFP2006 Result
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Fujitsu

PRIMERGY BX922 S2, Intel Xeon E5607, 2.27 GHz

$SPECfp^®\_rate2006 =$ 75.8

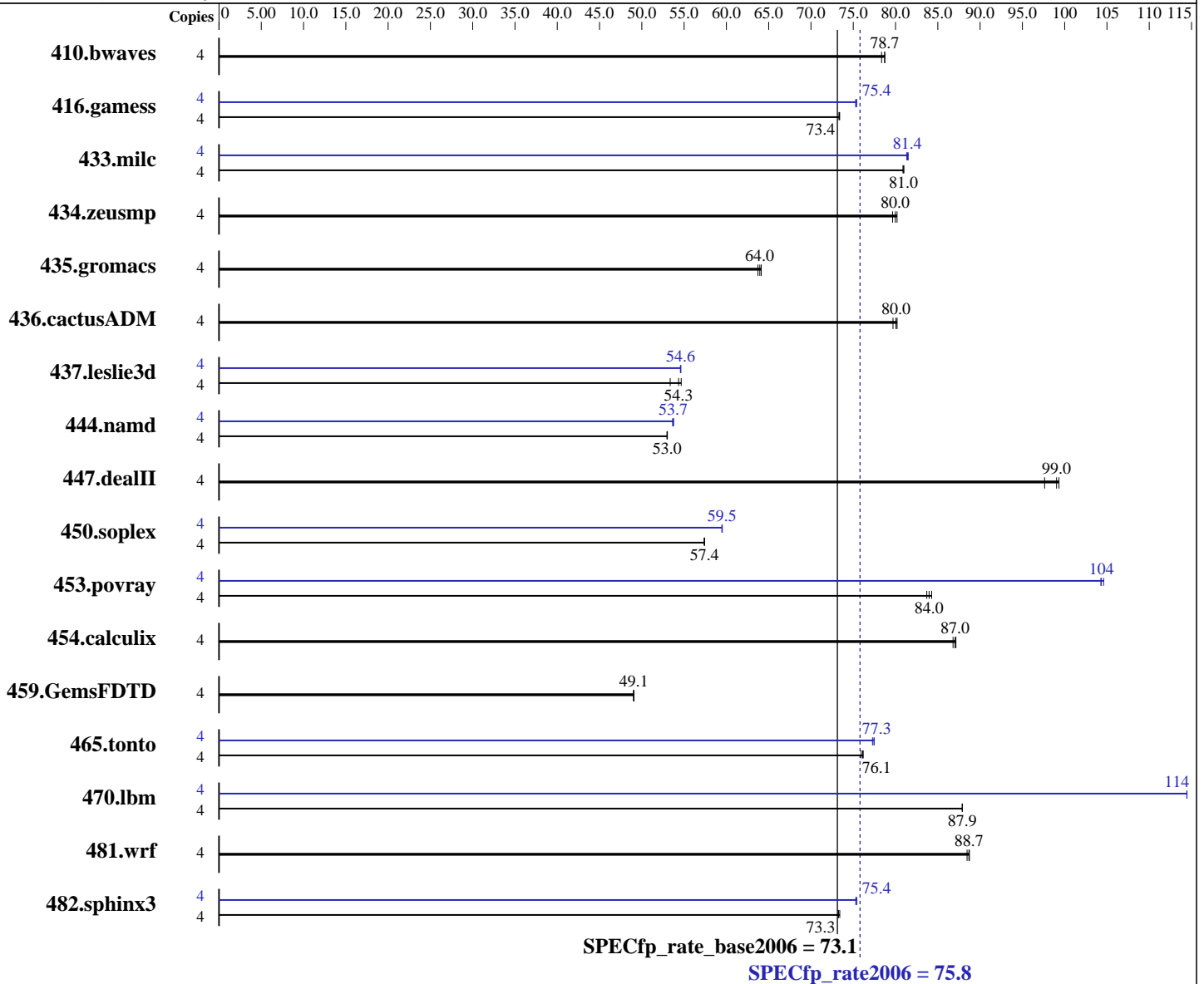$SPECfp\_rate\_base2006 =$ 73.1

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

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

Benchmark	Copies	Result
410.bwaves	4	78.7
416.gamess	4	75.4
416.gamess	4	73.4
433.milc	4	81.4
433.milc	4	81.0
434.zeusmp	4	80.0
435.gromacs	4	64.0
436.cactusADM	4	80.0
437.leslie3d	4	54.6
437.leslie3d	4	54.3
444.namd	4	53.7
444.namd	4	53.0
447.dealII	4	99.0
450.soplex	4	59.5
450.soplex	4	57.4
453.povray	4	104
453.povray	4	84.0
454.calculix	4	87.0
459.GemsFDTD	4	49.1
465.tonto	4	77.3
465.tonto	4	76.1
470.lbm	4	114
470.lbm	4	87.9
481.wrf	4	88.7
482.sphinx3	4	75.4
482.sphinx3	4	73.3

SPECfp_rate_base2006 = 73.1

SPECfp_rate2006 = 75.8

Hardware

CPU Name: Intel Xeon E5607
CPU Characteristics:
CPU MHz: 2267
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

Continued on next page

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:	8 MB I+D on chip per chip	Peak Pointers:	32/64-bit
Other Cache:	None	Other Software:	None
Memory:	24 GB (6 x 4 GB 2Rx4 PC3-10600R-9, ECC, running at 1067 MHz and CL7)		
Disk Subsystem:	1 x SAS, 300 GB, 10000 RPM		
Other Hardware:	--		

Results Table

Benchmark	Copies	Base Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Peak Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	694	78.3	690	78.7	**691**	**78.7**	4	694	78.3	690	78.7	**691**	**78.7**
416.gamess	4	1067	73.4	**1068**	**73.4**	1068	73.3	4	1039	75.4	1041	75.3	**1039**	**75.4**
433.milc	4	454	80.9	453	81.0	**454**	**81.0**	4	452	81.3	451	81.5	**451**	**81.4**
434.zeusmp	4	457	79.6	454	80.2	**455**	**80.0**	4	457	79.6	454	80.2	**455**	**80.0**
435.gromacs	4	**447**	**64.0**	445	64.1	448	63.7	4	**447**	**64.0**	445	64.1	448	63.7
436.cactusADM	4	**597**	**80.0**	600	79.7	596	80.2	4	**597**	**80.0**	600	79.7	596	80.2
437.leslie3d	4	688	54.7	**692**	**54.3**	705	53.4	4	**689**	**54.6**	688	54.6	689	54.6
444.namd	4	605	53.0	605	53.0	**605**	**53.0**	4	597	53.8	598	53.6	**597**	**53.7**
447.dealII	4	461	99.3	**462**	**99.0**	469	97.6	4	461	99.3	**462**	**99.0**	469	97.6
450.soplex	4	582	57.4	**581**	**57.4**	581	57.4	4	**561**	**59.5**	561	59.5	561	59.5
453.povray	4	**253**	**84.0**	254	83.7	253	84.3	4	203	105	204	104	**204**	**104**
454.calculix	4	**379**	**87.0**	380	86.8	379	87.1	4	**379**	**87.0**	380	86.8	379	87.1
459.GemsFDTD	4	**865**	**49.1**	865	49.1	866	49.0	4	**865**	**49.1**	865	49.1	866	49.0
465.tonto	4	517	76.2	518	75.9	**517**	**76.1**	4	509	77.3	**509**	**77.3**	508	77.5
470.lbm	4	**625**	**87.9**	625	87.9	625	87.9	4	**480**	**114**	480	114	480	114
481.wrf	4	504	88.7	**504**	**88.7**	505	88.5	4	504	88.7	**504**	**88.7**	505	88.5
482.sphinx3	4	1062	73.4	**1064**	**73.3**	1064	73.2	4	1035	75.3	1034	75.4	**1034**	**75.4**

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
```

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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 (except as noted below):
```
icpc   -m64
```

```
450.soplex: icpc -m32
```

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
   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
```

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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

    470.lbm: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
             -no-prec-div(pass 2) -prof-use(pass 2) -opt-malloc-options=3
             -ansi-alias -opt-prefetch -static -auto-ilp32

    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: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
                -no-prec-div(pass 2) -prof-use(pass 2) -opt-malloc-options=3
                -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

    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: -xSSE4.2 -ipo -O3 -no-prec-div
                  -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

    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:

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Peak Optimization Flags (Continued)

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 other inquiries, please contact webmaster@spec.org.

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