SPEC® CFP2006 Result
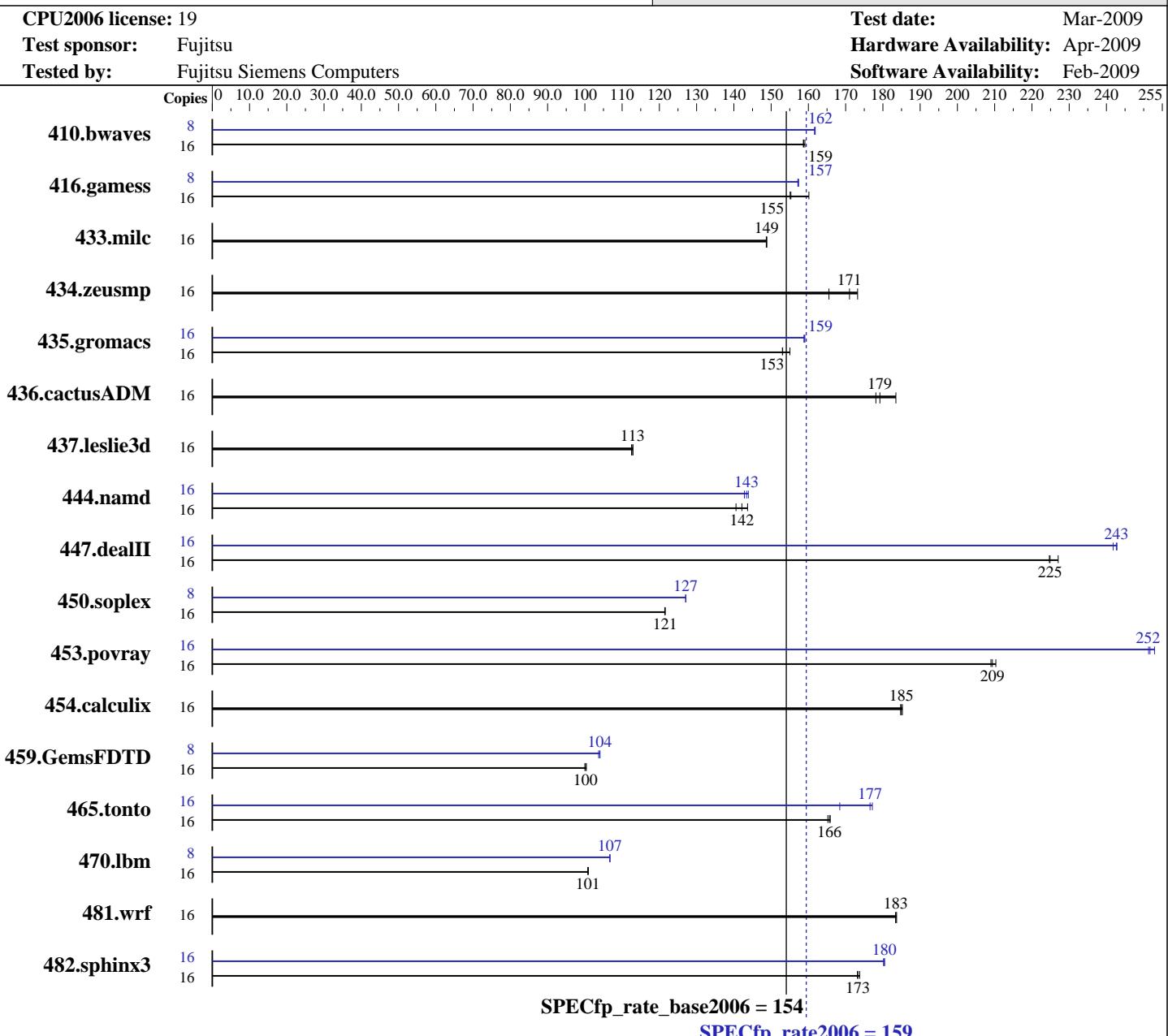Copyright 2006-2014 Standard Performance Evaluation Corporation

Fujitsu

PRIMERGY RX300 S5, Intel Xeon E5520, 2.26 GHz

$SPECfp®\_rate2006 = \quad 159$

$SPECfp\_rate\_base2006 = \quad 154$

CPU2006 license: 19	**Test date:** Mar-2009
Test sponsor: Fujitsu	**Hardware Availability:** Apr-2009
Tested by: Fujitsu Siemens Computers	**Software Availability:** Feb-2009

SPECfp_rate_base2006 = 154

SPECfp_rate2006 = 159

<table>
<tr><th colspan="2" style="text-align:center">Hardware</th></tr>
<tr><td>CPU Name:</td><td>Intel Xeon E5520</td></tr>
<tr><td>CPU Characteristics:</td><td>Intel Turbo Boost Technology up to 2.53 GHz</td></tr>
<tr><td>CPU MHz:</td><td>2267</td></tr>
<tr><td>FPU:</td><td>Integrated</td></tr>
<tr><td>CPU(s) enabled:</td><td>8 cores, 2 chips, 4 cores/chip, 2 threads/core</td></tr>
<tr><td>CPU(s) orderable:</td><td>1,2 chips</td></tr>
<tr><td>Primary Cache:</td><td>32 KB I + 32 KB D on chip per core</td></tr>
<tr><td>Secondary Cache:</td><td>256 KB I+D on chip per core</td></tr>
</table>

Software

Operating System:	SUSE Linux Enterprise Server 10 (x86_64) SP2, Kernel 2.6.16.60-0.21-smp
Compiler:	Intel C++ and Fortran Compiler 11.0 for Linux Build 20090131 Package ID: l_cproc_p_11.0.080, l_cprof_p_11.0.080
Auto Parallel:	No
File System:	ext3
System State:	Multi-User Run Level 3
Base Pointers:	64-bit

Continued on next page (Hardware)

Continued on next page (Software)

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L3 Cache:	8 MB I+D on chip per chip	Peak Pointers:	32/64-bit
Other Cache:	None	Other Software:	Binutils 2.18.50.0.7.20080502
Memory:	48 GB (12x4 GB PC3-10600R, 2 rank, CL9-9-9, ECC)		
Disk Subsystem:	1 x SATA, 250 GB, 7200 RPM		
Other Hardware:	None		

Results Table

Benchmark	Base Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	16	1370	159	1367	159	**1370**	**159**	8	**672**	**162**	672	162	673	162
416.gamess	16	**2017**	**155**	2020	155	1956	160	8	997	157	995	157	**996**	**157**
433.milc	16	987	149	**987**	**149**	988	149	16	987	149	**987**	**149**	988	149
434.zeusmp	16	**851**	**171**	880	166	841	173	16	**851**	**171**	880	166	841	173
435.gromacs	16	747	153	737	155	**746**	**153**	16	718	159	719	159	**719**	**159**
436.cactusADM	16	1042	183	1073	178	**1067**	**179**	16	1042	183	1073	178	**1067**	**179**
437.leslie3d	16	1337	113	**1333**	**113**	1332	113	16	1337	113	**1333**	**113**	1332	113
444.namd	16	**903**	**142**	893	144	913	141	16	**895**	**143**	898	143	892	144
447.dealII	16	**814**	**225**	806	227	815	225	16	754	243	**754**	**243**	757	242
450.soplex	16	**1098**	**121**	1098	122	1099	121	8	**525**	**127**	525	127	525	127
453.povray	16	407	209	**407**	**209**	405	210	16	339	251	337	253	**338**	**252**
454.calculix	16	713	185	**714**	**185**	714	185	16	713	185	**714**	**185**	714	185
459.GemsFDTD	16	**1694**	**100**	1691	100	1698	100	8	819	104	**816**	**104**	816	104
465.tonto	16	953	165	**950**	**166**	949	166	16	935	168	889	177	**892**	**177**
470.lbm	16	2178	101	**2181**	**101**	2181	101	8	1030	107	**1030**	**107**	1030	107
481.wrf	16	974	183	**974**	**183**	973	184	16	974	183	**974**	**183**	973	184
482.sphinx3	16	1794	174	**1799**	**173**	1801	173	16	1728	180	**1729**	**180**	1731	180

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

General Notes

    This result was measured on the PRIMERGY TX300 S5. The PRIMERGY TX300 S5
    and the PRIMERGY RX300 S5 are electronically equivalent.

    For information about Fujitsu please visit: http://www.fujitsu.com

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CPU2006 license: 19
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Test date: Mar-2009
Hardware Availability: Apr-2009
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Base Compiler Invocation

C benchmarks:
    icc

C++ benchmarks:
    icpc

Fortran benchmarks:
    ifort

Benchmarks using both Fortran and C:
    icc ifort

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

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

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

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

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Peak Compiler Invocation

C benchmarks (except as noted below):
      icc

      482.sphinx3: `icc -m32`

C++ benchmarks (except as noted below):
      icpc

        450.soplex: `icpc -m32`

Fortran benchmarks:
      ifort

Benchmarks using both Fortran and C:
      icc ifort

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`

Peak Optimization Flags

C benchmarks:

        433.milc: `basepeak = yes`

        470.lbm: `-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch`
              `-auto-ilp32`

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

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Hardware Availability: Apr-2009
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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) -static(pass 2) -prof-use(pass 2)
        -fno-alias -auto-ilp32

    447.dealII: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
        -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
        -unroll2 -ansi-alias -scalar-rep-

    450.soplex: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
        -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
        -opt-malloc-options=3

    453.povray: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
        -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
        -unroll4 -ansi-alias

Fortran benchmarks:

    410.bwaves: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

    416.gamess: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
        -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
        -unroll2 -Ob0 -ansi-alias -scalar-rep-

    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) -static(pass 2) -prof-use(pass 2)
        -unroll2 -Ob0 -opt-prefetch

    465.tonto: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
        -no-prec-div(pass 2) -static(pass 2) -prof-use(pass 2)
        -unroll4 -auto

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) -static(pass 2) -prof-use(pass 2)
        -opt-prefetch -auto-ilp32

  436.cactusADM: basepeak = yes

    454.calculix: basepeak = yes

        481.wrf: basepeak = yes

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The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revA.20090710.04.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic11.0-fp-linux64-revA.20090710.04.xml`

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

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