



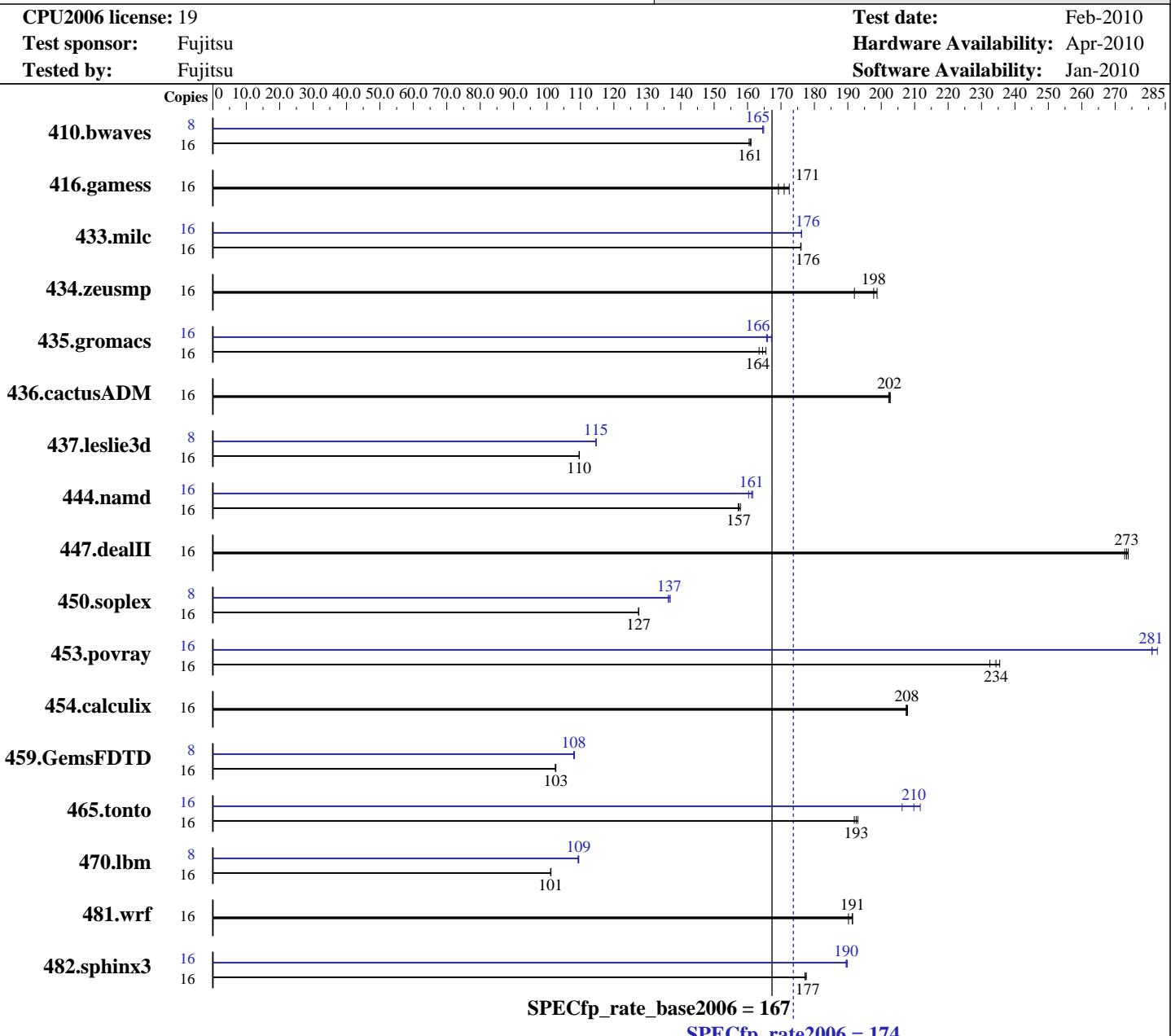
# SPEC® CFP2006 Result

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Fujitsu

PRIMERGY RX300 S6, Intel Xeon E5630, 2.53 GHz

**SPECfp®\_rate2006 = 174**



## Hardware

CPU Name: Intel Xeon E5630  
CPU Characteristics: Intel Turbo Boost Technology up to 2.80 GHz  
CPU MHz: 2533  
FPU: Integrated  
CPU(s) enabled: 8 cores, 2 chips, 4 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

## Software

Operating System: SUSE Linux Enterprise Server 11 (x86\_64), Kernel 2.6.27.19-5-default  
Compiler: Intel C++ and Fortran Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091130 Package ID: l\_cproc\_p\_11.1.064, l\_cprof\_p\_11.1.064  
Auto Parallel: No  
File System: ext3  
System State: Multi-User Run Level 3

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**SPECfp\_rate2006 = 174**

PRIMERGY RX300 S6, Intel Xeon E5630, 2.53 GHz

**SPECfp\_rate\_base2006 = 167**

**CPU2006 license:** 19

**Test date:** Feb-2010

**Test sponsor:** Fujitsu

**Hardware Availability:** Apr-2010

**Tested by:** Fujitsu

**Software Availability:** Jan-2010

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

## Results Table

Benchmark	Base								Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	16	1350	161	<u>1352</u>	<u>161</u>	1355	160	8	<u>661</u>	<u>165</u>	660	165	661	165		
416.gamess	16	1816	172	1851	169	<u>1833</u>	<u>171</u>	16	1816	172	1851	169	<u>1833</u>	<u>171</u>		
433.milc	16	<u>835</u>	<u>176</u>	835	176	835	176	16	834	176	<u>834</u>	<u>176</u>	834	176		
434.zeusmp	16	<u>736</u>	<u>198</u>	733	199	758	192	16	<u>736</u>	<u>198</u>	733	199	758	192		
435.gromacs	16	<u>695</u>	<u>164</u>	690	166	699	163	16	689	166	684	167	<u>688</u>	<u>166</u>		
436.cactusADM	16	<u>944</u>	<u>202</u>	945	202	943	203	16	<u>944</u>	<u>202</u>	945	202	943	203		
437.leslie3d	16	1372	110	1371	110	<u>1372</u>	<u>110</u>	8	<u>656</u>	<u>115</u>	656	115	656	115		
444.namd	16	<u>815</u>	<u>157</u>	813	158	816	157	16	<u>796</u>	<u>161</u>	794	162	800	160		
447.dealII	16	<u>669</u>	<u>273</u>	671	273	668	274	16	<u>669</u>	<u>273</u>	671	273	668	274		
450.soplex	16	1047	127	<u>1047</u>	<u>127</u>	1048	127	8	490	136	<u>489</u>	<u>137</u>	487	137		
453.povray	16	<u>363</u>	<u>234</u>	362	235	366	233	16	301	283	<u>303</u>	<u>281</u>	303	281		
454.calculix	16	<u>636</u>	<u>208</u>	636	207	635	208	16	<u>636</u>	<u>208</u>	636	207	635	208		
459.GemsFDTD	16	1654	103	1657	102	<u>1654</u>	<u>103</u>	8	786	108	784	108	<u>786</u>	<u>108</u>		
465.tonto	16	816	193	<u>818</u>	<u>193</u>	820	192	16	<u>751</u>	<u>210</u>	744	212	763	206		
470.lbm	16	2173	101	<u>2174</u>	<u>101</u>	2175	101	8	1004	109	<u>1004</u>	<u>109</u>	1006	109		
481.wrf	16	940	190	<u>934</u>	<u>191</u>	934	191	16	940	190	<u>934</u>	<u>191</u>	934	191		
482.sphinx3	16	1756	178	1760	177	<u>1759</u>	<u>177</u>	16	1645	190	<u>1645</u>	<u>190</u>	1642	190		

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

## Platform Notes

The system automatically configures the memory to run at 1066 MHz.  
BIOS configuration:  
Data Reuse Optimization = Disable



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Hardware Availability: Apr-2010

Tested by: Fujitsu

Software Availability: Jan-2010

## General Notes

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>

## 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

C++ benchmarks:

-xSSE4.2 -ipo -O3 -no-prec-div -static

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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

## 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) -static(pass 2) -prof-use(pass 2)
           -fno-alias -opt-prefetch
```

```
470.lbm: -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 -ansi-alias -auto-ilp32
```

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

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: basepeak = yes
```

```
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: basepeak = yes
```

```
434.zeusmp: basepeak = yes
```

```
437.leslie3d: -xSSE4.2 -ipo -O3 -no-prec-div -static
```

```
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
```

```
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 -inline-calloc -opt-malloc-options=3
```

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
```

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## Peak Optimization Flags (Continued)

436.cactusADM: basepeak = yes

454.calculix: basepeak = yes

481.wrf: basepeak = yes

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100316.00.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100316.00.xml>

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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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