



# SPEC<sup>®</sup> CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp<sup>®</sup>\_rate2006 = 103

PowerEdge R900 (Intel Xeon E7330, 2.40 GHz)

SPECfp\_rate\_base2006 = 97.5

CPU2006 license: 55

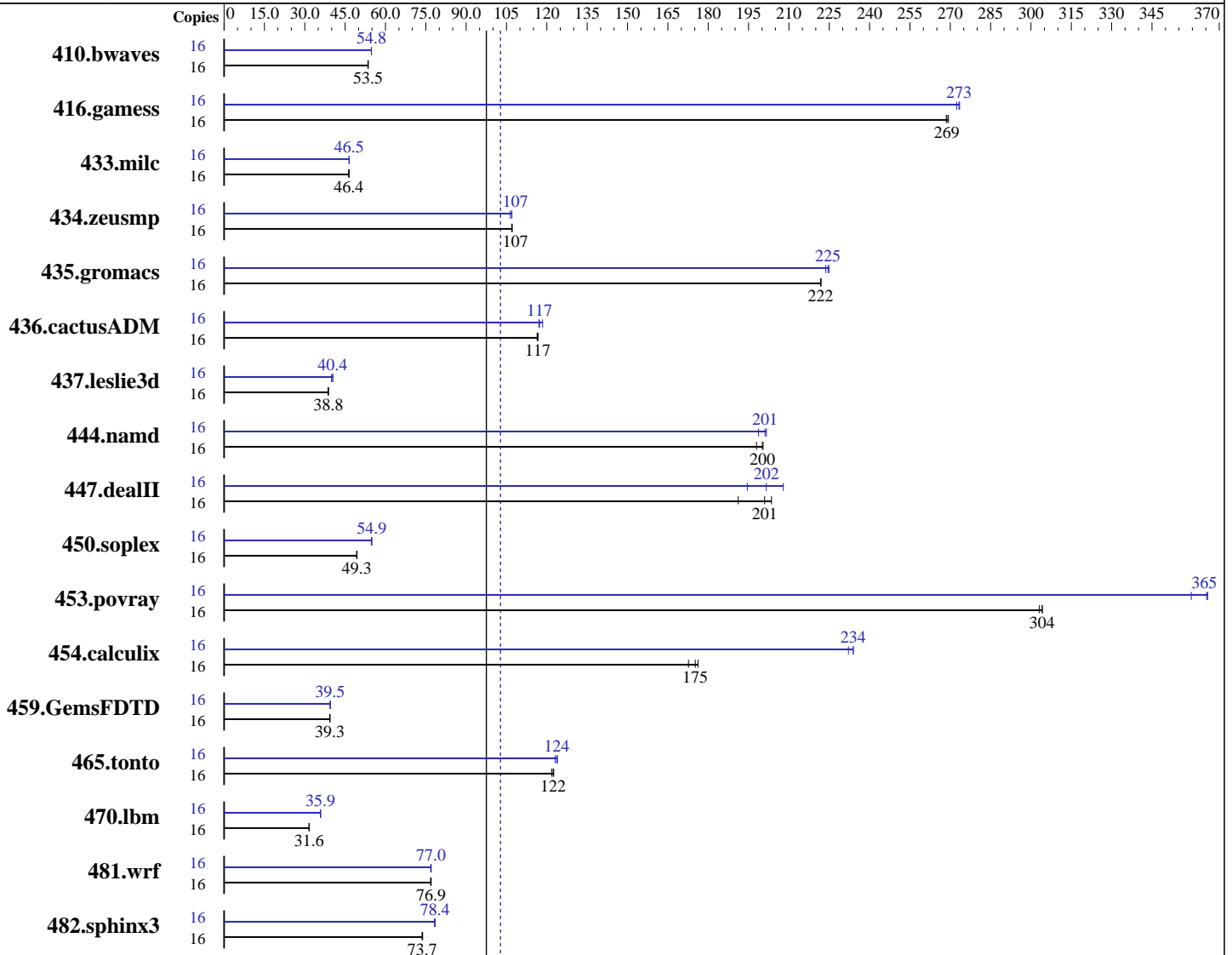
Test date: Oct-2007

Test sponsor: Dell Inc.

Hardware Availability: Nov-2007

Tested by: Dell Inc.

Software Availability: Nov-2007



SPECfp\_rate2006 = 103

SPECfp\_rate\_base2006 = 97.5

### Hardware

CPU Name: Intel Xeon E7330  
 CPU Characteristics: 1066 MHz system bus  
 CPU MHz: 2400  
 FPU: Integrated  
 CPU(s) enabled: 16 cores, 4 chips, 4 cores/chip  
 CPU(s) orderable: 2,4 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 6 MB I+D on chip per chip, 3 MB shared / 2 cores

Continued on next page

### Software

Operating System: 64-Bit SUSE LINUX Enterprise Server 10 SP1  
 Compiler: Intel C++ and Fortran Compiler for Linux32 and Linux64 version 10.1  
 Build 20070725  
 Auto Parallel: No  
 File System: ReiserFS  
 System State: Multi-user, run level 3  
 Base Pointers: 64-bit  
 Peak Pointers: 32/64-bit

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp\_rate2006 = 103

PowerEdge R900 (Intel Xeon E7330, 2.40 GHz)

SPECfp\_rate\_base2006 = 97.5

CPU2006 license: 55

Test date: Oct-2007

Test sponsor: Dell Inc.

Hardware Availability: Nov-2007

Tested by: Dell Inc.

Software Availability: Nov-2007

L3 Cache: None  
Other Cache: None  
Memory: 16 GB (16 x 1GB 667 MHz ECC CL5 FB-DIMM)  
Disk Subsystem: 1 x 73 GB SAS 15K RPM  
Other Hardware: None

Other Software: None

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	16	4067	53.5	<b>4061</b>	<b>53.5</b>	4055	53.6	16	3971	54.8	<b>3969</b>	<b>54.8</b>	3969	54.8
416.gamess	16	1167	269	1163	269	<b>1166</b>	<b>269</b>	16	1150	272	<b>1147</b>	<b>273</b>	1146	273
433.milc	16	<b>3165</b>	<b>46.4</b>	3159	46.5	3170	46.3	16	<b>3160</b>	<b>46.5</b>	3157	46.5	3160	46.5
434.zeusmp	16	<b>1360</b>	<b>107</b>	1361	107	1360	107	16	1369	106	1361	107	<b>1362</b>	<b>107</b>
435.gromacs	16	515	222	515	222	<b>515</b>	<b>222</b>	16	508	225	511	224	<b>509</b>	<b>225</b>
436.cactusADM	16	1638	117	1643	116	<b>1639</b>	<b>117</b>	16	<b>1630</b>	<b>117</b>	1633	117	1614	118
437.leslie3d	16	3883	38.7	<b>3881</b>	<b>38.8</b>	3880	38.8	16	<b>3721</b>	<b>40.4</b>	3767	39.9	3720	40.4
444.namd	16	<b>641</b>	<b>200</b>	648	198	640	200	16	646	199	636	202	<b>638</b>	<b>201</b>
447.dealII	16	899	204	<b>911</b>	<b>201</b>	957	191	16	941	195	<b>908</b>	<b>202</b>	880	208
450.soplex	16	2706	49.3	2699	49.4	<b>2704</b>	<b>49.3</b>	16	<b>2432</b>	<b>54.9</b>	2431	54.9	2434	54.8
453.povray	16	280	304	<b>280</b>	<b>304</b>	281	303	16	233	366	237	360	<b>233</b>	<b>365</b>
454.calculix	16	749	176	<b>753</b>	<b>175</b>	764	173	16	569	232	<b>564</b>	<b>234</b>	564	234
459.GemsFDTD	16	4307	39.4	4325	39.2	<b>4322</b>	<b>39.3</b>	16	4298	39.5	4302	39.5	<b>4301</b>	<b>39.5</b>
465.tonto	16	<b>1287</b>	<b>122</b>	1285	123	1293	122	16	<b>1273</b>	<b>124</b>	1270	124	1279	123
470.lbm	16	<b>6953</b>	<b>31.6</b>	6952	31.6	6953	31.6	16	6131	35.9	6134	35.8	<b>6131</b>	<b>35.9</b>
481.wrf	16	<b>2324</b>	<b>76.9</b>	2321	77.0	2328	76.8	16	<b>2322</b>	<b>77.0</b>	2322	77.0	2326	76.8
482.sphinx3	16	4234	73.7	<b>4233</b>	<b>73.7</b>	4224	73.8	16	3986	78.2	<b>3977</b>	<b>78.4</b>	3974	78.5

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  
'/usr/bin/taskset' used to bind processes to CPUs

## Platform Notes

BIOS Settings:  
Adjacent Cache Line Prefetch = Disabled (default Enabled)  
Hardware Prefetcher = Disabled (default Enabled)



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp\_rate2006 = 103

PowerEdge R900 (Intel Xeon E7330, 2.40 GHz)

SPECfp\_rate\_base2006 = 97.5

CPU2006 license: 55

Test date: Oct-2007

Test sponsor: Dell Inc.

Hardware Availability: Nov-2007

Tested by: Dell Inc.

Software Availability: Nov-2007

## 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:

-fast

C++ benchmarks:

-fast

Fortran benchmarks:

-fast

Benchmarks using both Fortran and C:

-fast



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp\_rate2006 = 103

PowerEdge R900 (Intel Xeon E7330, 2.40 GHz)

SPECfp\_rate\_base2006 = 97.5

CPU2006 license: 55

Test date: Oct-2007

Test sponsor: Dell Inc.

Hardware Availability: Nov-2007

Tested by: Dell Inc.

Software Availability: Nov-2007

## Peak Compiler Invocation

C benchmarks (except as noted below):

```
/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/icc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include
```

433.milc: icc

C++ benchmarks (except as noted below):

icpc

```
450.soplex: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/icpc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include
```

Fortran benchmarks (except as noted below):

ifort

```
437.leslie3d: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/bin/ifort
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux32/include
```

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
444.namd: -DSPEC_CPU_LP64
447.deallI: -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
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX
```

## Peak Optimization Flags

C benchmarks:

```
433.milc: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias
-auto-ilp32
```

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp\_rate2006 = 103

PowerEdge R900 (Intel Xeon E7330, 2.40 GHz)

SPECfp\_rate\_base2006 = 97.5

CPU2006 license: 55

Test date: Oct-2007

Test sponsor: Dell Inc.

Hardware Availability: Nov-2007

Tested by: Dell Inc.

Software Availability: Nov-2007

## Peak Optimization Flags (Continued)

470.lbm: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2  
-scalar-rep- -prefetch -opt-malloc-options=3

482.sphinx3: -fast -unroll2

### C++ benchmarks:

444.namd: -prof-gen(pass 1) -prof-use(pass 2) -fast -fno-alias  
-auto-ilp32

447.dealII: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2  
-ansi-alias -scalar-rep-

450.soplex: -prof-gen(pass 1) -prof-use(pass 2) -fast  
-opt-malloc-options=3

453.povray: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4  
-ansi-alias

### Fortran benchmarks:

410.bwaves: -fast -prefetch

416.gamess: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0  
-ansi-alias -scalar-rep-

434.zeusmp: -prof-gen(pass 1) -prof-use(pass 2) -fast

437.leslie3d: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch  
-opt-malloc-options=3

459.GemsFDTD: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -Ob0  
-prefetch

465.tonto: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -auto

### Benchmarks using both Fortran and C:

435.gromacs: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch  
-auto-ilp32

436.cactusADM: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2  
-prefetch -auto-ilp32

454.calculix: -fast -unroll-aggressive -auto-ilp32

481.wrf: -fast -auto-ilp32



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECfp\_rate2006 = 103

PowerEdge R900 (Intel Xeon E7330, 2.40 GHz)

SPECfp\_rate\_base2006 = 97.5

CPU2006 license: 55

Test date: Oct-2007

Test sponsor: Dell Inc.

Hardware Availability: Nov-2007

Tested by: Dell Inc.

Software Availability: Nov-2007

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

<http://www.spec.org/cpu2006/flags/Intel-ic10.1-FP-intel64-linux-flags.20090714.22.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic10.1-FP-intel64-linux-flags.20090714.22.xml>

SPEC and SPECfp are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.0.  
Report generated on Tue Jul 22 14:43:37 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 13 November 2007.