



# SPEC® CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## IBM Corporation

IBM System x3250 M4  
(Intel Core i3-3240T, 2.90 GHz)

SPECfp®\_rate2006 = 78.7

SPECfp\_rate\_base2006 = 76.4

CPU2006 license: 11

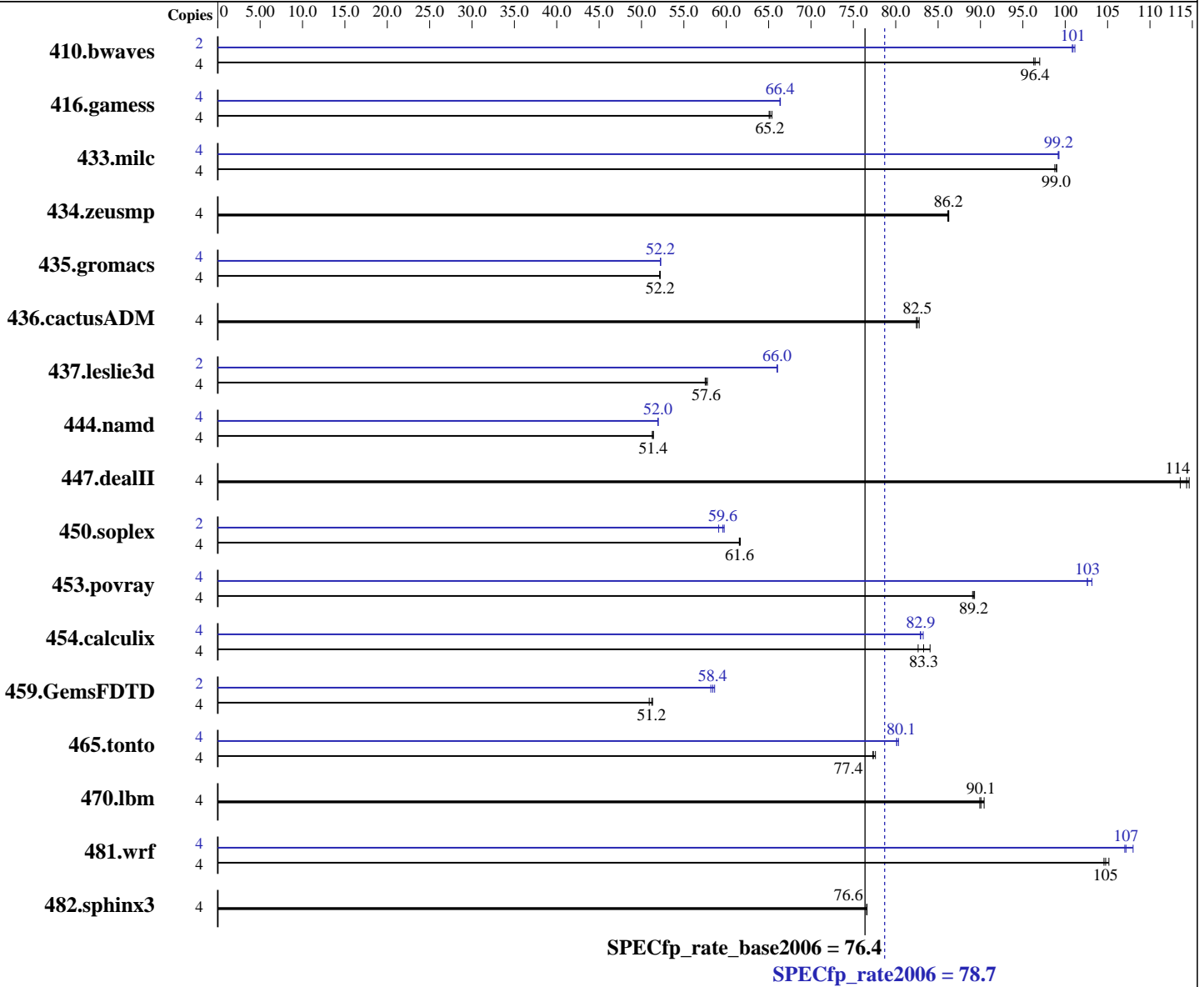
Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Oct-2012

Hardware Availability: Sep-2012

Software Availability: Dec-2011



### Hardware

CPU Name: Intel Core i3-3240T  
 CPU Characteristics:  
 CPU MHz: 2900  
 FPU: Integrated  
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip, 2 threads/core  
 CPU(s) orderable: 1 chip  
 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: Red Hat Enterprise Linux Server release 6.2 (Santiago)  
 2.6.32-220.el6.x86\_64  
 Compiler: C/C++: Version 12.1.0.225 of Intel C++ Studio XE for Linux;  
 Fortran: Version 12.1.0.225 of Intel Fortran Studio XE for Linux  
 Auto Parallel: No  
 File System: ext4

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## IBM Corporation

IBM System x3250 M4  
(Intel Core i3-3240T, 2.90 GHz)

SPECfp\_rate2006 = 78.7

SPECfp\_rate\_base2006 = 76.4

CPU2006 license: 11

Test sponsor: IBM Corporation

Tested by: IBM Corporation

Test date: Oct-2012

Hardware Availability: Sep-2012

Software Availability: Dec-2011

L3 Cache: 3 MB I+D on chip per chip  
Other Cache: None  
Memory: 16 GB (2 x 8 GB 2Rx8 PC3-12800E-11, ECC)  
Disk Subsystem: 1 x 146 GB SAS, 15000 RPM  
Other Hardware: None

System State: Run level 3 (multi-user)  
Base Pointers: 32/64-bit  
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	560	97.0	565	96.3	<b>564</b>	<b>96.4</b>	2	270	101	<b>269</b>	<b>101</b>	269	101
416.gamess	4	1204	65.1	1198	65.4	<b>1202</b>	<b>65.2</b>	4	1181	66.3	1180	66.4	<b>1180</b>	<b>66.4</b>
433.milc	4	371	99.0	<b>371</b>	<b>99.0</b>	372	98.8	4	<b>370</b>	<b>99.2</b>	370	99.3	370	99.2
434.zeusmp	4	422	86.3	<b>422</b>	<b>86.2</b>	423	86.1	4	422	86.3	<b>422</b>	<b>86.2</b>	423	86.1
435.gromacs	4	548	52.1	547	52.2	<b>547</b>	<b>52.2</b>	4	<b>547</b>	<b>52.2</b>	547	52.2	546	52.3
436.cactusADM	4	<b>579</b>	<b>82.5</b>	580	82.4	578	82.8	4	<b>579</b>	<b>82.5</b>	580	82.4	578	82.8
437.leslie3d	4	654	57.5	651	57.8	<b>652</b>	<b>57.6</b>	2	<b>285</b>	<b>66.0</b>	285	66.0	285	66.1
444.namd	4	<b>624</b>	<b>51.4</b>	626	51.3	624	51.4	4	<b>618</b>	<b>52.0</b>	618	51.9	617	52.0
447.dealII	4	399	115	403	114	<b>400</b>	<b>114</b>	4	399	115	403	114	<b>400</b>	<b>114</b>
450.soplex	4	<b>542</b>	<b>61.6</b>	542	61.5	541	61.7	2	282	59.1	<b>280</b>	<b>59.6</b>	279	59.8
453.povray	4	238	89.3	<b>239</b>	<b>89.2</b>	239	89.1	4	<b>207</b>	<b>103</b>	206	103	207	103
454.calculix	4	399	82.6	<b>396</b>	<b>83.3</b>	393	84.1	4	398	82.9	<b>398</b>	<b>82.9</b>	396	83.2
459.GemsFDTD	4	834	50.9	<b>829</b>	<b>51.2</b>	827	51.3	2	<b>363</b>	<b>58.4</b>	362	58.6	365	58.2
465.tonto	4	509	77.3	507	77.6	<b>509</b>	<b>77.4</b>	4	<b>491</b>	<b>80.1</b>	490	80.3	491	80.1
470.lbm	4	<b>610</b>	<b>90.1</b>	611	89.9	608	90.4	4	<b>610</b>	<b>90.1</b>	611	89.9	608	90.4
481.wrf	4	425	105	<b>426</b>	<b>105</b>	427	105	4	<b>417</b>	<b>107</b>	414	108	417	107
482.sphinx3	4	<b>1018</b>	<b>76.6</b>	1018	76.6	1018	76.6	4	<b>1018</b>	<b>76.6</b>	1018	76.6	1018	76.6

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

## Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

## Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

## Platform Notes

BIOS Settings:  
Turbo Mode enabled in BIOS  
C-State enabled in BIOS

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**IBM Corporation**

**SPECfp\_rate2006 = 78.7**

IBM System x3250 M4  
(Intel Core i3-3240T, 2.90 GHz)

**SPECfp\_rate\_base2006 = 76.4**

**CPU2006 license:** 11  
**Test sponsor:** IBM Corporation  
**Tested by:** IBM Corporation

**Test date:** Oct-2012  
**Hardware Availability:** Sep-2012  
**Software Availability:** Dec-2011

## Platform Notes (Continued)

```
Sysinfo program /root/SPECcpul.2/config/sysinfo.rev6800
$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3
running on localhost.localdomain Tue Oct 23 01:28:22 2012
```

This section contains SUT (System Under Test) info as seen by some common utilities. To remove or add to this section, see: <http://www.spec.org/cpu2006/Docs/config.html#sysinfo>

```
From /proc/cpuinfo
model name : Intel(R) Core(TM) i3-3240T CPU @ 2.90GHz
1 "physical id"s (chips)
4 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The
following excerpts from /proc/cpuinfo might not be reliable. Use with
caution.)
cpu cores : 2
siblings : 4
physical 0: cores 0 1
cache size : 3072 KB
```

```
From /proc/meminfo
MemTotal: 16322724 kB
HugePages_Total: 0
Hugepagesize: 2048 kB
```

```
/usr/bin/lsb_release -d
Red Hat Enterprise Linux Server release 6.2 (Santiago)
```

```
From /etc/*release* /etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.2 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.2 (Santiago)
system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server
```

```
uname -a:
Linux localhost.localdomain 2.6.32-220.el6.x86_64 #1 SMP Wed Nov 9 08:03:13
EST 2011 x86_64 x86_64 x86_64 GNU/Linux
```

```
run-level 3 Oct 22 14:11
```

```
SPEC is set to: /root/SPECcpul.2
Filesystem Type Size Used Avail Use% Mounted on
/dev/mapper/VolGroup-lv_root
ext4 50G 16G 32G 33% /
```

```
Additional information from dmidecode:
Memory:
2x Micron 18JSF1G72AZ-1G6D1 8 GB 1600 MHz 2 rank
```

(End of data from sysinfo program)



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**IBM Corporation**

**SPECfp\_rate2006 = 78.7**

IBM System x3250 M4  
(Intel Core i3-3240T, 2.90 GHz)

**SPECfp\_rate\_base2006 = 76.4**

**CPU2006 license:** 11  
**Test sponsor:** IBM Corporation  
**Tested by:** IBM Corporation

**Test date:** Oct-2012  
**Hardware Availability:** Sep-2012  
**Software Availability:** Dec-2011

## General Notes

Environment variables set by runspec before the start of the run:  
LD\_LIBRARY\_PATH = "/root/SPECcpul.2/libs/32:/root/SPECcpul.2/libs/64"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RHEL5.5  
Transparent Huge Pages enabled with:  
echo always > /sys/kernel/mm/redhat\_transparent\_hugepage/enabled  
Filesystem page cache cleared with:  
echo 1> /proc/sys/vm/drop\_caches  
runspec command invoked through numactl i.e.:  
numactl --interleave=all runspec <etc>

## 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.deallI: -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



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**IBM Corporation**

**SPECfp\_rate2006 = 78.7**

IBM System x3250 M4  
(Intel Core i3-3240T, 2.90 GHz)

**SPECfp\_rate\_base2006 = 76.4**

**CPU2006 license:** 11  
**Test sponsor:** IBM Corporation  
**Tested by:** IBM Corporation

**Test date:** Oct-2012  
**Hardware Availability:** Sep-2012  
**Software Availability:** Dec-2011

## Base Optimization Flags

C benchmarks:

`-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch -auto-p32  
-ansi-alias -opt-mem-layout-trans=3`

C++ benchmarks:

`-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch -auto-p32  
-ansi-alias -opt-mem-layout-trans=3`

Fortran benchmarks:

`-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch`

Benchmarks using both Fortran and C:

`-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch -auto-p32  
-ansi-alias -opt-mem-layout-trans=3`

## Peak Compiler Invocation

C benchmarks:

`icc -m64`

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`  
465.tonto: `-DSPEC_CPU_LP64`

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**IBM Corporation**

IBM System x3250 M4  
(Intel Core i3-3240T, 2.90 GHz)

**SPECfp\_rate2006 = 78.7**

**SPECfp\_rate\_base2006 = 76.4**

**CPU2006 license:** 11  
**Test sponsor:** IBM Corporation  
**Tested by:** IBM Corporation

**Test date:** Oct-2012  
**Hardware Availability:** Sep-2012  
**Software Availability:** Dec-2011

## Peak Portability Flags (Continued)

470.lbm: -DSPEC\_CPU\_LP64  
481.wrf: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_CASE\_FLAG -DSPEC\_CPU\_LINUX  
482.sphinx3: -DSPEC\_CPU\_LP64

## Peak Optimization Flags

C benchmarks:

433.milc: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -static -auto-ilp32  
-opt-mem-layout-trans=3

470.lbm: basepeak = yes

482.sphinx3: basepeak = yes

C++ benchmarks:

444.namd: -xAVX(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.dealIII: basepeak = yes

450.soplex: -xAVX(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

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

Fortran benchmarks:

410.bwaves: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -static

416.gamess: -xAVX(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: -xAVX -ipo -O3 -no-prec-div -static -opt-prefetch

459.GemsFDTD: -xAVX(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

465.tonto: -xAVX(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

Continued on next page



# SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**IBM Corporation**

IBM System x3250 M4  
(Intel Core i3-3240T, 2.90 GHz)

**SPECfp\_rate2006 = 78.7**

**SPECfp\_rate\_base2006 = 76.4**

**CPU2006 license:** 11

**Test sponsor:** IBM Corporation

**Tested by:** IBM Corporation

**Test date:** Oct-2012

**Hardware Availability:** Sep-2012

**Software Availability:** Dec-2011

## Peak Optimization Flags (Continued)

Benchmarks using both Fortran and C:

435.gromacs: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -opt-prefetch  
-static -auto-ilp32 -opt-mem-layout-trans=3

436.cactusADM: basepeak = yes

454.calculix: -xAVX -ipo -O3 -no-prec-div -static -auto-ilp32  
-opt-mem-layout-trans=3

481.wrf: Same as 454.calculix

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.html>  
<http://www.spec.org/cpu2006/flags/IBM-Platform-Flags-V1.2-IVB-A.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml>  
<http://www.spec.org/cpu2006/flags/IBM-Platform-Flags-V1.2-IVB-A.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 v1.2.  
Report generated on Thu Jul 24 13:18:53 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 4 December 2012.