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

IBM Corporation

IBM System x3250 M4
(Intel Pentium G2100T, 2.60 GHz)

$SPECfp®2006 =$ 42.5
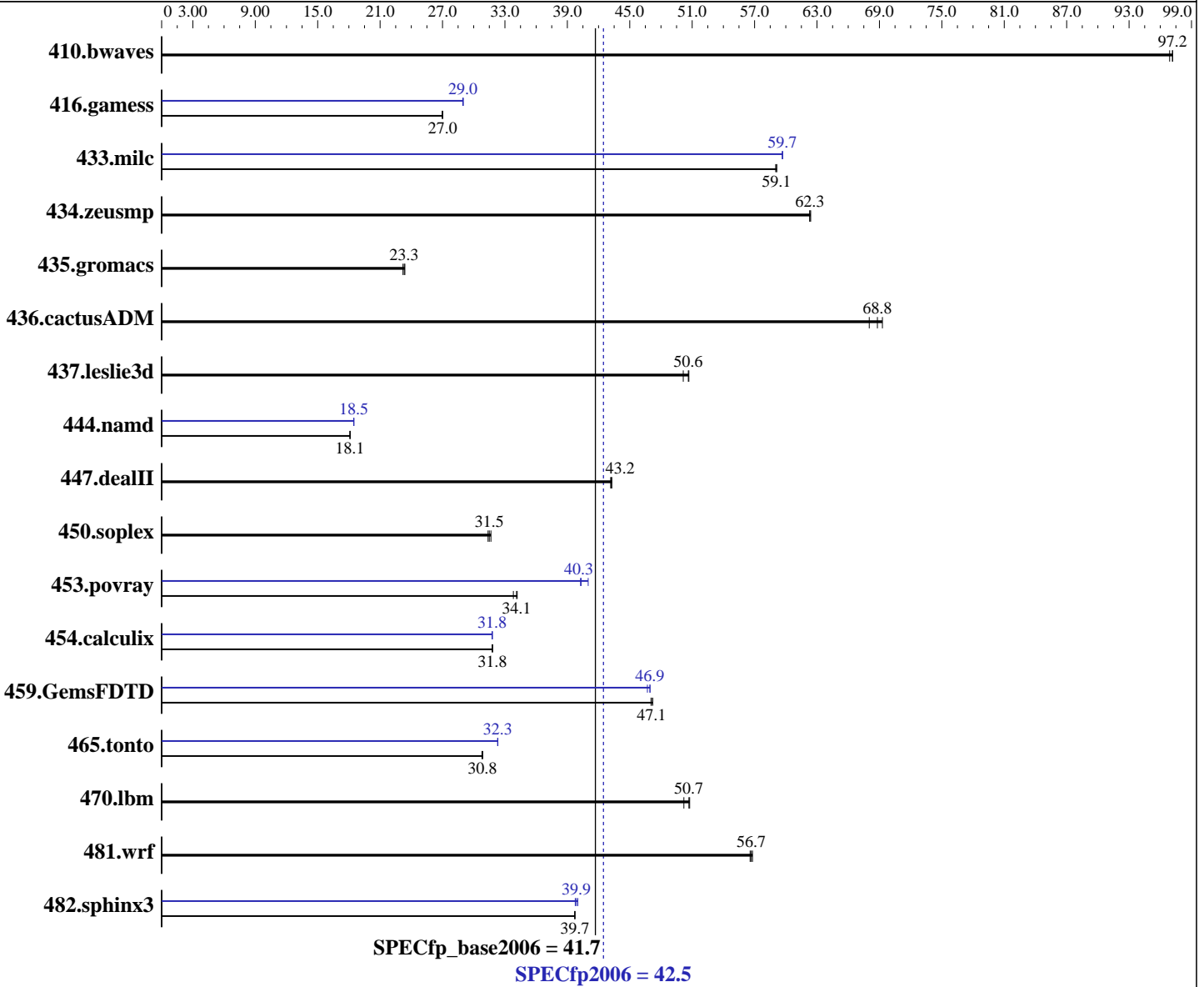
$SPECfp\_base2006 =$ 41.7

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

Test date: Nov-2012
Hardware Availability: Sep-2012
Software Availability: Dec-2011

Benchmark	Result
410.bwaves	97.2
416.gamess	29.0 / 27.0
433.milc	59.7 / 59.1
434.zeusmp	62.3
435.gromacs	23.3
436.cactusADM	68.8
437.leslie3d	50.6
444.namd	18.5 / 18.1
447.dealII	43.2
450.soplex	31.5
453.povray	40.3 / 34.1
454.calculix	31.8 / 31.8
459.GemsFDTD	46.9 / 47.1
465.tonto	32.3 / 30.8
470.lbm	50.7
481.wrf	56.7
482.sphinx3	39.9 / 39.7

SPECfp_base2006 = 41.7
SPECfp2006 = 42.5

Hardware

CPU Name:	Intel Pentium G2100T
CPU Characteristics:	
CPU MHz:	2600
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 cores/chip
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:	Yes
File System:	ext4

Continued on next page

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

IBM System x3250 M4
(Intel Pentium G2100T, 2.60 GHz)

$SPECfp2006 =$ 42.5

$SPECfp\_base2006 =$ 41.7

CPU2006 license: 11	**Test date:** Nov-2012
Test sponsor: IBM Corporation	**Hardware Availability:** Sep-2012
Tested by: IBM Corporation	**Software Availability:** Dec-2011

L3 Cache:	3 MB I+D on chip per chip	System State:	Run level 3 (multi-user)
Other Cache:	None	Base Pointers:	64-bit
Memory:	16 GB (2 x 8 GB 2Rx8 PC3-12800E-11, ECC)	Peak Pointers:	32/64-bit
Disk Subsystem:	1 x 146 GB SAS, 15000 RPM	Other Software:	None
Other Hardware:	None		

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	140	97.2	140	96.9	**140**	**97.2**	140	97.2	140	96.9	**140**	**97.2**
416.gamess	**725**	**27.0**	726	27.0	725	27.0	**676**	**29.0**	675	29.0	676	28.9
433.milc	**155**	**59.1**	155	59.1	156	59.0	**154**	**59.7**	154	59.7	154	59.7
434.zeusmp	146	62.4	146	62.3	**146**	**62.3**	146	62.4	146	62.3	**146**	**62.3**
435.gromacs	**306**	**23.3**	308	23.2	305	23.4	**306**	**23.3**	308	23.2	305	23.4
436.cactusADM	**174**	**68.8**	176	68.0	172	69.3	**174**	**68.8**	176	68.0	172	69.3
437.leslie3d	185	50.7	187	50.1	**186**	**50.6**	185	50.7	187	50.1	**186**	**50.6**
444.namd	**443**	**18.1**	443	18.1	443	18.1	**434**	**18.5**	434	18.5	434	18.5
447.dealII	264	43.3	265	43.2	**265**	**43.2**	264	43.3	265	43.2	**265**	**43.2**
450.soplex	**265**	**31.5**	263	31.7	266	31.4	**265**	**31.5**	263	31.7	266	31.4
453.povray	157	33.8	156	34.2	**156**	**34.1**	**132**	**40.3**	132	40.3	130	41.0
454.calculix	260	31.8	259	31.8	**259**	**31.8**	260	31.8	260	31.8	**260**	**31.8**
459.GemsFDTD	226	47.0	225	47.2	**225**	**47.1**	227	46.7	**226**	**46.9**	226	46.9
465.tonto	**319**	**30.8**	320	30.8	319	30.9	305	32.3	304	32.3	**305**	**32.3**
470.lbm	**271**	**50.7**	271	50.8	274	50.2	**271**	**50.7**	271	50.8	274	50.2
481.wrf	197	56.8	**197**	**56.7**	197	56.6	197	56.8	**197**	**56.7**	197	56.6
482.sphinx3	**491**	**39.7**	491	39.7	491	39.7	490	39.8	487	40.0	**489**	**39.9**

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

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
    Sysinfo program /root/SPECcpu1.2/config/sysinfo.rev6800
    $Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3
    running on localhost.localdomain Thu Nov 1 15:56:37 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

SPEC CFP2006 Result

IBM Corporation

IBM System x3250 M4
(Intel Pentium G2100T, 2.60 GHz)

$SPECfp2006 = $ 42.5

$SPECfp_base2006 = $ 41.7

Platform Notes (Continued)

```
From /proc/cpuinfo
   model name : Intel(R) Pentium(R) CPU G2100T @ 2.60GHz
      1 "physical id"s (chips)
      2 "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  : 2
      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 Nov 1 15:52

SPEC is set to: /root/SPECcpu1.2
   Filesystem     Type    Size  Used Avail Use% Mounted on
   /dev/mapper/VolGroup-lv_root
                  ext4     50G   12G   36G  25% /

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

(End of data from sysinfo program)
```

General Notes

```
Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,scatter"
LD_LIBRARY_PATH = "/root/SPECcpu1.2/libs/32:/root/SPECcpu1.2/libs/64"
OMP_NUM_THREADS = "2"

 Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
```

SPEC CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

IBM System x3250 M4
(Intel Pentium G2100T, 2.60 GHz)

$SPECfp2006 =$ 42.5

$SPECfp\_base2006 =$ 41.7

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

Test date: Nov-2012
Hardware Availability: Sep-2012
Software Availability: Dec-2011

General Notes (Continued)

```
memory using RHEL5.5
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
```

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 -parallel -opt-prefetch
-ansi-alias

C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch -ansi-alias

Continued on next page

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

IBM System x3250 M4
(Intel Pentium G2100T, 2.60 GHz)

$SPECfp2006 =$ 42.5

$SPECfp\_base2006 =$ 41.7

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

Test date: Nov-2012
Hardware Availability: Sep-2012
Software Availability: Dec-2011

Base Optimization Flags (Continued)

Fortran benchmarks:
```
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
```

Benchmarks using both Fortran and C:
```
-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
-ansi-alias
```

Peak Compiler Invocation

C benchmarks:
```
icc    -m64
```

C++ benchmarks:
```
icpc   -m64
```

Fortran benchmarks:
```
ifort -m64
```

Benchmarks using both Fortran and C:
```
icc    -m64 ifort -m64
```

Peak Portability Flags

```
Same as Base Portability Flags
```

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
             -ansi-alias

   470.lbm: basepeak = yes

482.sphinx3: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -ansi-alias
             -parallel
```

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
```

Continued on next page

SPEC CFP2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

IBM System x3250 M4
(Intel Pentium G2100T, 2.60 GHz)

$SPECfp2006 =$ 42.5

$SPECfp\_base2006 =$ 41.7

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

Test date: Nov-2012
Hardware Availability: Sep-2012
Software Availability: Dec-2011

Peak Optimization Flags (Continued)

447.dealII: basepeak = yes

450.soplex: basepeak = yes

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

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: basepeak = yes

459.GemsFDTD: -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 -opt-prefetch -parallel

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) -inline-calloc
-opt-malloc-options=3 -auto -unroll4

Benchmarks using both Fortran and C:

435.gromacs: basepeak = yes

436.cactusADM: basepeak = yes

454.calculix: -xSSE4.2 -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias

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-ic12.1-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 CFP2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

IBM System x3250 M4
(Intel Pentium G2100T, 2.60 GHz)

$SPECfp2006 =$ **42.5**

$SPECfp\_base2006 =$ **41.7**

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

Test date: Nov-2012
Hardware Availability: Sep-2012
Software Availability: Dec-2011

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

Tested with SPEC CPU2006 v1.2.
Report generated on Thu Jul 24 13:26:13 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 4 December 2012.