IBM Corporation
IBM System x iDataPlex dx360 M4
(Intel Xeon E5-2667 v2, 3.30 GHz)

SPECfp®2006 = 114
SPECfp_base2006 = 109

IBM Corporation
Test date: Jun-2014
Hardware Availability: Dec-2013
Software Availability: Sep-2013

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

Hardware

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<td>dealII</td>
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Software

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<tr>
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### Results Table

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<td>86.6</td>
</tr>
</tbody>
</table>

Enterprise 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"

Zone reclaim mode enabled with:

```bash
echo 1 > /proc/sys/vm/zone_reclaim_mode
```

Intel Idle Driver disabled with the following Linux kernel parameter in /etc/grub.conf:

```sh
cpuset.cores=0
```

### Platform Notes

BIOS setting:

```
Operating Mode set to Maximum Performance
```

Sysinfo program /home/SPECcpu-20140116-ic14.0/config/sysinfo.rev6818

$Rev: 6818 $ $Date:: 2012-07-17 $  $$ e86d102572650a6e4d596a3cee98f191 running on dx360M4 Thu Jun 5 03:39:11 2014

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Standard Performance Evaluation Corporation
info@spec.org
http://www.spec.org/
IBM Corporation
IBM System x iDataPlex dx360 M4
(Intel Xeon E5-2667 v2, 3.30 GHz)

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**Platform Notes (Continued)**

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) Xeon(R) CPU E5-2667 v2 @ 3.30GHz
2 "physical id"s (chips)
32 "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 : 8
siblings : 16
physical 0: cores 1 2 3 4 8 9 10 11
physical 1: cores 1 2 3 4 8 9 10 11
cache size : 25600 KB
```

From /proc/meminfo

```
MemTotal:       264641468 kB
HugePages_Total:       0
Hugepagesize:       2048 kB
```

```
/us/bin/lsb_release -d
Red Hat Enterprise Linux Server release 6.4 (Santiago)
```

From /etc/*release* /etc/*version*

```
redhat-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
```

```
run-level 3 Jun 3 16:55
SPEC is set to: /home/SPECcpu-20140116-ic14.0
```

```
filesystem Type  Size Used Avail Use% Mounted on
/dev/mapper/vg_td2-lv_home  ext4  380G  174G 188G 49% /home
```

Additional information from dmidecode:

```
BIOS IBM -[TDE139OUS-1.50]- 02/21/2014
Memory:
16x Samsung M393B2G70QH0-CMA 16 GB 1867 MHz 2 rank
```

(End of data from sysinfo program)
SPEC CFP2006 Result

IBM Corporation
IBM System x iDataPlex dx360 M4
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General Notes

Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,compact,1,0"
LD_LIBRARY_PATH = "/home/SPECcpu-20140116-ic14.0/lib;"/home/SPECcpu-20140116-ic14.0/lib64:/home/SPECcpu-20140116-ic14.0/sh"
OMP_NUM_THREADS = "16"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RedHat EL 6.4
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
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 -nofor_main
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
IBM Corporation
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Hardware Availability: Dec-2013
Software Availability: Sep-2013

Base Optimization Flags

C benchmarks:
-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -ansi-alias

C++ benchmarks:
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias

Fortran benchmarks:
-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch

Benchmarks using both Fortran and C:
-xAVX -ipo -O3 -no-prec-div -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: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -auto-ilp32
-ansi-alias

470.lbm: basepeak = yes

482.sphinx3: -xAVX -ipo -O3 -no-prec-div -unroll2 -ansi-alias
-parallel

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**SPEC CFP2006 Result**

**IBM Corporation**

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---

**Peak Optimization Flags (Continued)**

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.dealII: basepeak = yes

450.soplex: basepeak = yes

453.povray: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
            -no-prec-div(pass 2) -prof-use(pass 2) -unroll14 -ansi-alias
```

Fortran benchmarks:

```
410.bwaves: basepeak = yes

416.gamess: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
            -no-prec-div(pass 2) -prof-use(pass 2) -unroll12  
            -inline-level=0 -scalar-rep-

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
               -no-prec-div(pass 2) -prof-use(pass 2) -unroll12  
               -inline-level=0 -opt-prefetch -parallel

465.tonto: -xAVX(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: -xAVX -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-ic14.0-official-linux64.20140128.html

http://www.spec.org/cpu2006/flags/IBM-Platform-Flags-V1.2-IVB-B.html

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

http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml

http://www.spec.org/cpu2006/flags/IBM-Platform-Flags-V1.2-IVB-B.xml
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For other inquiries, please contact webmaster@spec.org.

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