IBM Corporation

IBM System x3250 M4 (Intel Xeon E3-1240 v2)

SPEC\textsuperscript{\textregistered} fp\textsuperscript{-}rate\textsubscript{2006} = 137
SPEC\textsuperscript{\textregistered} fp\textsubscript{rate}\_base\textsubscript{2006} = 133

CPU\textsuperscript{2006} license: 11
Test sponsor: IBM Corporation
Tested by: IBM Corporation
Test date: Jun-2012
Hardware Availability: May-2012
Software Availability: Dec-2011

Hardware

- CPU Name: Intel Xeon E3-1240 v2
- CPU Characteristics: Intel Turbo Boost Technology up to 3.80 GHz
- CPU MHz: 3400
- FPU: Integrated
- CPU(s) enabled: 4 cores, 1 chip, 4 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

Software

- Operating System: Red Hat Enterprise Linux Server release 6.2 (Santiago)
- 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

Copies

| SPECfp\_rate\textsubscript{2006} = 137 |
| SPECfp\_rate\_base\textsubscript{2006} = 133 |

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### IBM Corporation

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### SPEC CFP2006 Result

<table>
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<th>SPECfp_rate2006</th>
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<td>137</td>
<td>133</td>
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</table>

#### CPU2006 license: 11

#### Test sponsor: IBM Corporation

#### Tested by: IBM Corporation

### L3 Cache: 8 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

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</table>

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

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### IBM Corporation

**IBM System x3250 M4 (Intel Xeon E3-1240 v2)**

- **CPU2006 license**: 11
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#### SPEC CFP2006 Result

**SPECfp_rate2006 = 137**

**SPECfp_rate_base2006 = 133**

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### Platform Notes (Continued)

Sysinfo program /root/SPECcpu1.2/config/sysinfo.rev6800

$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3

running on localhost.localdomain Tue Jun 26 00:54:22 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) Xeon(R) CPU E3-1240 V2 @ 3.40GHz
- 1 "physical id"s (chips)
- 8 "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 : 4
  - siblings : 8
  - physical 0: cores 0 1 2 3
- cache size : 8192 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)

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 Jun 25 15:02

SPEC is set to: /root/SPECcpu1.2

- Filesystem Type Size Used Avail Use% Mounted on
- /devmapper/VolGroup-lv_root
  - ext4 50G 30G 17G 64% /

Additional information from dmidecode:

- Memory:
  - 2x Micron 18JSF1G72AZ-1G6D1 8 GB 1600 MHz 2 rank

(End of data from sysinfo program)
Turnover Anomalies in the House of Representatives

Two factors may explain why turnover is especially high in the House of Representatives:

1. Members of the House are typically younger and have less experience in politics compared to Senators.
2. The House's workload is more intense, requiring members to juggle multiple responsibilities.

Despite these factors, turnover in the House is not as high as in other countries with similar political systems.

---

**Table of Contents**

- Turnover Anomalies in the House of Representatives
- Factors Influencing Turnover
- Case Studies
- Conclusion

---

**Factors Influencing Turnover**

The factors contributing to turnover in the House of Representatives include:

- **Younger Members**: Members of the House are typically younger, which may lead to less political experience and a greater willingness to switch parties or run for higher office.
- **High Workload**: The House's workload is more intense, requiring members to juggle multiple responsibilities, which can lead to burnout and turnover.
- **Election System**: The House uses a first-past-the-post system, which can lead to easy victories for incumbents and easy losses for challengers.

---

**Case Studies**

Here are a few case studies of turnover in the House of Representatives:

- **2018 Midterm Elections**: The 2018 midterm elections saw a record-high turnover rate, with many seats changing hands.
- **2020 Presidential Election**: The 2020 presidential election also resulted in a high turnover rate, with many seats changing hands.

---

**Conclusion**

In conclusion, the high turnover rate in the House of Representatives can be attributed to the factors discussed above. It is important for the House to address these issues to maintain a cohesive and effective legislative body.

---

**References**

- *The American Political Science Association* - *Politics and the Public*
- *The Washington Post* - *House and Senate Turnover*
- *The New York Times* - *Politics and the Public*
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Base Optimization Flags

C benchmarks:

C++ benchmarks:

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

Benchmarks using both Fortran and C:

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 -nofor_main
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

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Peak Portability Flags (Continued)

454.calculix: -DSPEC_CPU_LP64 -nofor_main
465.tonto: -DSPEC_CPU_LP64
470.lbm: -DSPEC_CPU_LP64
481.wrf: -DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX

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: -xAVX -ipo -O3 -no-prec-div -unroll2

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: -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

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

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

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IBM Corporation

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Peak Optimization Flags (Continued)

465.tonto: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-prec-div(pass 2) -prof-use(pass 2) -unroll4 -auto
-inline-calloc -opt-malloc-options=3

Benchmarks using both Fortran and C:

435.gromacs: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-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 -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

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For other inquiries, please contact webmaster@spec.org.

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