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

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

SPECint_rate2006 = 86.2
SPECint_rate_base2006 = 82.2

**CPU Name:** Intel Core i3-3240T
**Operating System:** Red Hat Enterprise Linux Server release 6.2 (Santiago)

**CPU Characteristics:**
- CPU MHz: 2900
- FPU: Integrated
- CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip, 2 threads/core
- CPU(s) orderable:
- Primary Cache: 32 KB I + 32 KB D on chip per core
- Secondary Cache: 256 KB I+D on chip per core
- 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

- **Software**
  - Compiler: C/C++: Version 12.1.0.225 of Intel C++ Studio XE for Linux
  - Auto Parallel: No
  - File System: ext4
  - System State: Run level 3 (multi-user)
  - Base Pointers: 32-bit
  - Peak Pointers: 32/64-bit
  - Other Software: Microquill SmartHeap V9.01

---

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>SPECint_rate2006</th>
<th>SPECint_rate_base2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>4</td>
<td>70.0</td>
<td></td>
</tr>
<tr>
<td>401.bzip2</td>
<td>4</td>
<td>69.3</td>
<td>43.9</td>
</tr>
<tr>
<td>403.gcc</td>
<td>4</td>
<td>68.0</td>
<td>68.4</td>
</tr>
<tr>
<td>429.mcf</td>
<td>4</td>
<td>60.8</td>
<td>42.3</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>4</td>
<td>59.6</td>
<td>60.8</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>4</td>
<td>61.9</td>
<td>131</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>4</td>
<td>59.4</td>
<td></td>
</tr>
<tr>
<td>462.libquantum</td>
<td>4</td>
<td>489</td>
<td></td>
</tr>
<tr>
<td>464.h264ref</td>
<td>4</td>
<td>104</td>
<td>101</td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>4</td>
<td>56.2</td>
<td>53.3</td>
</tr>
<tr>
<td>473.astar</td>
<td>4</td>
<td>49.1</td>
<td></td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>4</td>
<td>91.6</td>
<td></td>
</tr>
</tbody>
</table>
### IBM Corporation

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

**SPEC CINT2006 Result**

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

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>4</td>
<td>663</td>
<td>59.0</td>
<td>664</td>
<td>58.8</td>
<td>662</td>
<td>59.0</td>
<td>4</td>
<td>559</td>
<td>70.0</td>
<td>558</td>
<td>70.0</td>
<td>563</td>
<td>69.4</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>4</td>
<td>912</td>
<td>42.3</td>
<td>913</td>
<td>42.3</td>
<td>911</td>
<td>42.4</td>
<td>4</td>
<td>880</td>
<td>43.9</td>
<td>889</td>
<td>43.4</td>
<td>875</td>
<td>44.1</td>
</tr>
<tr>
<td>403.gcc</td>
<td>4</td>
<td>470</td>
<td>68.4</td>
<td>469</td>
<td>68.7</td>
<td>473</td>
<td>68.1</td>
<td>4</td>
<td>470</td>
<td>68.5</td>
<td>473</td>
<td>68.0</td>
<td>476</td>
<td>67.7</td>
</tr>
<tr>
<td>429.mcf</td>
<td>4</td>
<td>281</td>
<td>130</td>
<td>279</td>
<td>131</td>
<td>279</td>
<td>131</td>
<td>4</td>
<td>281</td>
<td>130</td>
<td>279</td>
<td>131</td>
<td>279</td>
<td>131</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>4</td>
<td>704</td>
<td>59.6</td>
<td>704</td>
<td>59.6</td>
<td>704</td>
<td>59.6</td>
<td>4</td>
<td>690</td>
<td>60.8</td>
<td>689</td>
<td>60.9</td>
<td>690</td>
<td>60.8</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>4</td>
<td>366</td>
<td>102</td>
<td>367</td>
<td>102</td>
<td>367</td>
<td>102</td>
<td>4</td>
<td>293</td>
<td>127</td>
<td>294</td>
<td>127</td>
<td>293</td>
<td>127</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>4</td>
<td>814</td>
<td>59.5</td>
<td>816</td>
<td>59.3</td>
<td>815</td>
<td>59.4</td>
<td>4</td>
<td>781</td>
<td>61.9</td>
<td>781</td>
<td>62.0</td>
<td>806</td>
<td>60.0</td>
</tr>
<tr>
<td>462.libquantum</td>
<td>4</td>
<td>169</td>
<td>490</td>
<td>169</td>
<td>489</td>
<td>169</td>
<td>489</td>
<td>4</td>
<td>169</td>
<td>490</td>
<td>169</td>
<td>489</td>
<td>169</td>
<td>489</td>
</tr>
<tr>
<td>464.h264ref</td>
<td>4</td>
<td>867</td>
<td>102</td>
<td>897</td>
<td>98.7</td>
<td>875</td>
<td>101</td>
<td>4</td>
<td>849</td>
<td>104</td>
<td>849</td>
<td>104</td>
<td>845</td>
<td>105</td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>4</td>
<td>469</td>
<td>53.3</td>
<td>469</td>
<td>53.3</td>
<td>470</td>
<td>53.2</td>
<td>4</td>
<td>445</td>
<td>56.2</td>
<td>444</td>
<td>56.3</td>
<td>446</td>
<td>56.0</td>
</tr>
<tr>
<td>473.astar</td>
<td>4</td>
<td>572</td>
<td>49.1</td>
<td>577</td>
<td>48.7</td>
<td>570</td>
<td>49.3</td>
<td>4</td>
<td>572</td>
<td>49.1</td>
<td>577</td>
<td>48.7</td>
<td>570</td>
<td>49.3</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>4</td>
<td>814</td>
<td>19.4</td>
<td>816</td>
<td>19.3</td>
<td>815</td>
<td>19.2</td>
<td>4</td>
<td>814</td>
<td>19.4</td>
<td>816</td>
<td>19.3</td>
<td>815</td>
<td>19.2</td>
</tr>
</tbody>
</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  
Sysinfo program /root/SPECcpu1.2/config/sysinfo.rev6800  
$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3  
running on localhost.localdomain Mon Oct 22 14:17:39 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

Continued on next page

---

**SPEC CINT2006 Result**

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

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>4</td>
<td>663</td>
<td>59.0</td>
<td>664</td>
<td>58.8</td>
<td>662</td>
<td>59.0</td>
<td>4</td>
<td>559</td>
<td>70.0</td>
<td>558</td>
<td>70.0</td>
<td>563</td>
<td>69.4</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>4</td>
<td>912</td>
<td>42.3</td>
<td>913</td>
<td>42.3</td>
<td>911</td>
<td>42.4</td>
<td>4</td>
<td>880</td>
<td>43.9</td>
<td>889</td>
<td>43.4</td>
<td>875</td>
<td>44.1</td>
</tr>
<tr>
<td>403.gcc</td>
<td>4</td>
<td>470</td>
<td>68.4</td>
<td>469</td>
<td>68.7</td>
<td>473</td>
<td>68.1</td>
<td>4</td>
<td>470</td>
<td>68.5</td>
<td>473</td>
<td>68.0</td>
<td>476</td>
<td>67.7</td>
</tr>
<tr>
<td>429.mcf</td>
<td>4</td>
<td>281</td>
<td>130</td>
<td>279</td>
<td>131</td>
<td>279</td>
<td>131</td>
<td>4</td>
<td>281</td>
<td>130</td>
<td>279</td>
<td>131</td>
<td>279</td>
<td>131</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>4</td>
<td>704</td>
<td>59.6</td>
<td>704</td>
<td>59.6</td>
<td>704</td>
<td>59.6</td>
<td>4</td>
<td>690</td>
<td>60.8</td>
<td>689</td>
<td>60.9</td>
<td>690</td>
<td>60.8</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>4</td>
<td>366</td>
<td>102</td>
<td>367</td>
<td>102</td>
<td>367</td>
<td>102</td>
<td>4</td>
<td>293</td>
<td>127</td>
<td>294</td>
<td>127</td>
<td>293</td>
<td>127</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>4</td>
<td>814</td>
<td>59.5</td>
<td>816</td>
<td>59.3</td>
<td>815</td>
<td>59.4</td>
<td>4</td>
<td>781</td>
<td>61.9</td>
<td>781</td>
<td>62.0</td>
<td>806</td>
<td>60.0</td>
</tr>
<tr>
<td>462.libquantum</td>
<td>4</td>
<td>169</td>
<td>490</td>
<td>169</td>
<td>489</td>
<td>169</td>
<td>489</td>
<td>4</td>
<td>169</td>
<td>490</td>
<td>169</td>
<td>489</td>
<td>169</td>
<td>489</td>
</tr>
<tr>
<td>464.h264ref</td>
<td>4</td>
<td>867</td>
<td>102</td>
<td>897</td>
<td>98.7</td>
<td>875</td>
<td>101</td>
<td>4</td>
<td>849</td>
<td>104</td>
<td>849</td>
<td>104</td>
<td>845</td>
<td>105</td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>4</td>
<td>469</td>
<td>53.3</td>
<td>469</td>
<td>53.3</td>
<td>470</td>
<td>53.2</td>
<td>4</td>
<td>445</td>
<td>56.2</td>
<td>444</td>
<td>56.3</td>
<td>446</td>
<td>56.0</td>
</tr>
<tr>
<td>473.astar</td>
<td>4</td>
<td>572</td>
<td>49.1</td>
<td>577</td>
<td>48.7</td>
<td>570</td>
<td>49.3</td>
<td>4</td>
<td>572</td>
<td>49.1</td>
<td>577</td>
<td>48.7</td>
<td>570</td>
<td>49.3</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>4</td>
<td>301</td>
<td>91.6</td>
<td>301</td>
<td>91.6</td>
<td>301</td>
<td>91.6</td>
<td>4</td>
<td>301</td>
<td>91.6</td>
<td>301</td>
<td>91.6</td>
<td>301</td>
<td>91.6</td>
</tr>
</tbody>
</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  
Sysinfo program /root/SPECcpu1.2/config/sysinfo.rev6800  
$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3  
running on localhost.localdomain Mon Oct 22 14:17:39 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

Continued on next page
IBM Corporation

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

SPECint_rate2006 = 86.2
SPECint_rate_base2006 = 82.2

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

Platform Notes (Continued)

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)
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/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:
LD_LIBRARY_PATH = "/root/SPECcpu1.2/libs/32:/root/SPECcpu1.2/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>

Standard Performance Evaluation Corporation
info@spec.org
http://www.spec.org/
IBM Corporation
IBM System x3250 M4
(Intel Core i3-3240T, 2.90 GHz)

SPECint_rate2006 = 86.2
SPECint_rate_base2006 = 82.2

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

Base Compiler Invocation

C benchmarks:
  icc -m32

C++ benchmarks:
  icpc -m32

Base Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
  -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3

C++ benchmarks:
  -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3
    -Wl,-z,muldefs -L/smartheap -lsmartheap

Base Other Flags

C benchmarks:
  403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
  icc -m32
    400.perlbench: icc -m64
    401.bzip2: icc -m64
    456.hmmer: icc -m64
    458.sjeng: icc -m64

C++ benchmarks:
  icpc -m32
IBM Corporation
IBM System x3250 M4
(Intel Core i3-3240T, 2.90 GHz)

SPECint\_rate2006 = 86.2
SPECint\_rate\_base2006 = 82.2

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

### Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_LINUX\_X64
401.bzip2: -DSPEC\_CPU\_LP64
456.hmmer: -DSPEC\_CPU\_LP64
458.sjeng: -DSPEC\_CPU\_LP64
462.libquantum: -DSPEC\_CPU\_LINUX
483.xalancbmk: -DSPEC\_CPU\_LINUX

### Peak Optimization Flags

#### C benchmarks:

400.perlbench: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-auto-ilp32

401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-opt-prefetch -auto-ilp32 -ansi-alias

403.gcc: -xSSE4.2 -ipo -03 -no-prec-div

429.mcf: basepeak = yes

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias -opt-mem-layout-trans=3

456.hmmer: -xSSE4.2 -ipo -03 -no-prec-div -unroll2 -auto-ilp32

458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-unroll4 -auto-ilp32

462.libquantum: basepeak = yes

464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-unroll2 -ansi-alias

#### C++ benchmarks:

471.omnetpp: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs
-L/smartheap -lsmartheap

473.astar: basepeak = yes

Continued on next page
IBM Corporation
IBM System x3250 M4
(Intel Core i3-3240T, 2.90 GHz)

SPECint\textsubscript{rate2006} = 86.2
SPECint\textsubscript{rate\_base2006} = 82.2

CPU\textsubscript{2006} license: 11
Test sponsor: IBM Corporation
Tested by: IBM Corporation

<table>
<thead>
<tr>
<th>CPU\textsubscript{2006} license</th>
<th>Test date</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>Oct-2012</td>
</tr>
</tbody>
</table>

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

Peak Optimization Flags (Continued)

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:
403.gcc: -Dalloca=_alloca

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 SPECint 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.

Tested with SPEC CPU2006 v1.2.
Originally published on 4 December 2012.