



SPEC® CINT2006 Result

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Acer Incorporated

SPECint®_rate2006 = 172

Acer AW2000h-AW170h F2 (Intel Xeon E5-2603)

SPECint_rate_base2006 = 165

CPU2006 license: 97

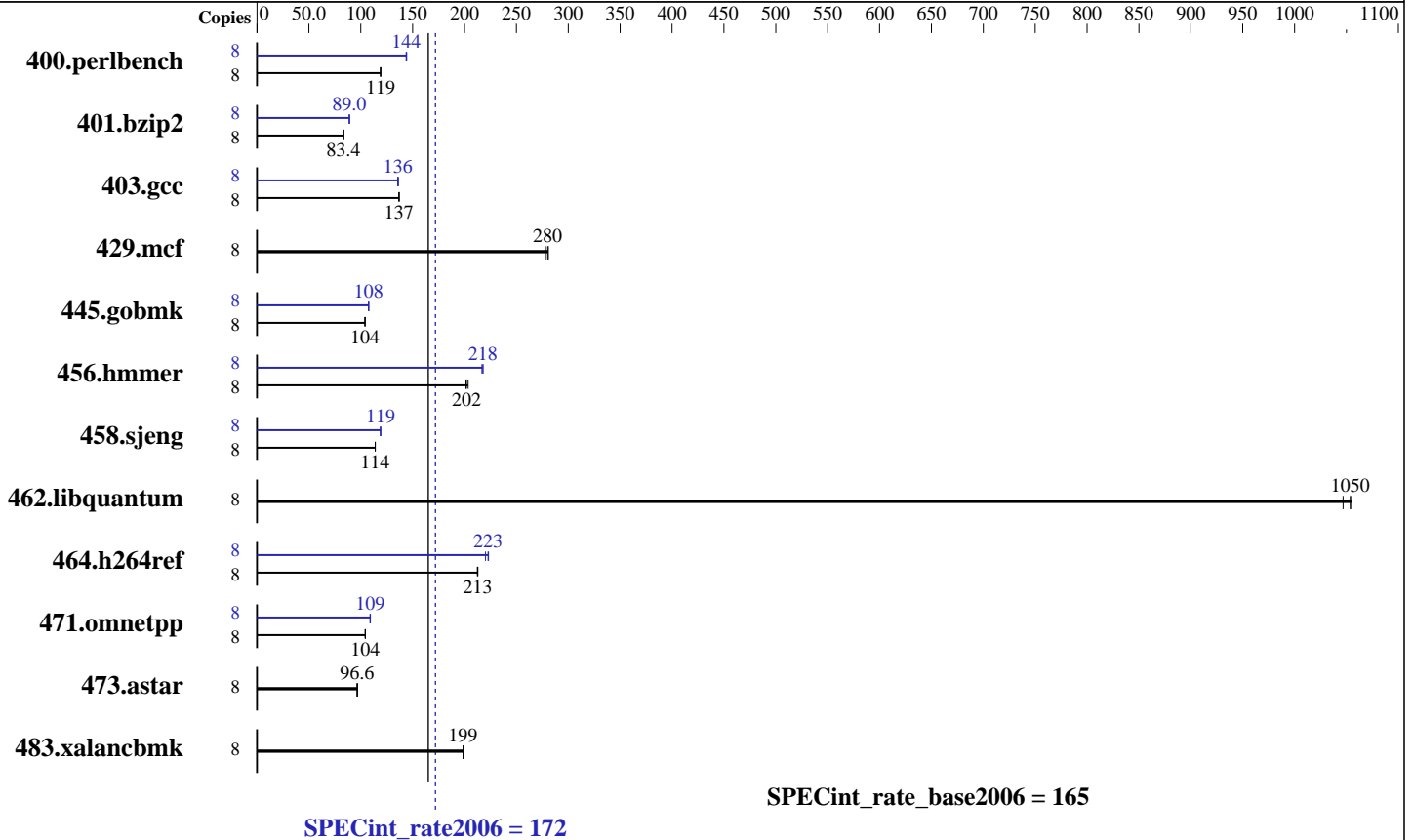
Test sponsor: Acer Incorporated

Tested by: Acer Incorporated

Test date: Sep-2012

Hardware Availability: Sep-2012

Software Availability: Dec-2011



Hardware

CPU Name: Intel Xeon E5-2603
 CPU Characteristics:
 CPU MHz: 1800
 FPU: Integrated
 CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip
 CPU(s) orderable: 1,2 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core
 L3 Cache: 10 MB I+D on chip per chip
 Other Cache: None
 Memory: 128 GB (8 x 16 GB 2Rx4 PC3-12800R-11, ECC)
 Disk Subsystem: 1 x 500 GB SATA, 7200 RPM
 Other Hardware: None

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
 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



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Results Table

| Benchmark | Base | | | | | | Peak | | | | | | | |
|----------------|--------|-------------------|-------------------|-------------------|--------------------|-------------------|--------------------|--------|-------------------|--------------------|-------------------|--------------------|-------------------|-------------------|
| | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 400.perlbench | 8 | 656 | 119 | 657 | 119 | <u>656</u> | <u>119</u> | 8 | <u>542</u> | <u>144</u> | 544 | 144 | 542 | 144 |
| 401.bzip2 | 8 | 925 | 83.5 | 926 | 83.4 | <u>926</u> | <u>83.4</u> | 8 | <u>868</u> | <u>89.0</u> | 866 | 89.1 | 868 | 88.9 |
| 403.gcc | 8 | 470 | 137 | 471 | 137 | <u>471</u> | <u>137</u> | 8 | 475 | 136 | 473 | 136 | <u>474</u> | <u>136</u> |
| 429.mcf | 8 | <u>260</u> | <u>280</u> | 262 | 278 | 260 | 281 | 8 | <u>260</u> | <u>280</u> | 262 | 278 | 260 | 281 |
| 445.gobmk | 8 | 807 | 104 | 806 | 104 | <u>806</u> | <u>104</u> | 8 | <u>780</u> | <u>108</u> | 780 | 108 | 780 | 108 |
| 456.hammer | 8 | <u>370</u> | <u>202</u> | 371 | 201 | 367 | 203 | 8 | 343 | 218 | <u>343</u> | <u>218</u> | 344 | 217 |
| 458.sjeng | 8 | <u>850</u> | <u>114</u> | 849 | 114 | 850 | 114 | 8 | 813 | 119 | <u>813</u> | <u>119</u> | 813 | 119 |
| 462.libquantum | 8 | 157 | 1050 | <u>157</u> | <u>1050</u> | 158 | 1050 | 8 | 157 | 1050 | <u>157</u> | <u>1050</u> | 158 | 1050 |
| 464.h264ref | 8 | 833 | 212 | 832 | 213 | <u>833</u> | <u>213</u> | 8 | 793 | 223 | 804 | 220 | <u>795</u> | <u>223</u> |
| 471.omnetpp | 8 | <u>479</u> | <u>104</u> | 478 | 105 | 480 | 104 | 8 | 458 | 109 | 459 | 109 | <u>458</u> | <u>109</u> |
| 473.astar | 8 | 582 | 96.4 | <u>581</u> | <u>96.6</u> | 580 | 96.8 | 8 | 582 | 96.4 | <u>581</u> | <u>96.6</u> | 580 | 96.8 |
| 483.xalancbmk | 8 | <u>278</u> | <u>199</u> | 278 | 199 | 278 | 199 | 8 | <u>278</u> | <u>199</u> | 278 | 199 | 278 | 199 |

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:

CPU Power and Performance Policy set to Performance

Sysinfo program /usr/cpu2006/config/sysinfo.rev6800

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

running on localhost.localdomain Sat Sep 15 09:19:58 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 E5-2603 0 @ 1.80GHz

2 "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.)

Continued on next page

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info@spec.org

<http://www.spec.org/>



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Platform Notes (Continued)

```

cpu cores : 4
siblings  : 4
physical 0: cores 0 1 2 3
physical 1: cores 0 1 2 3
cache size : 10240 KB

```

From /proc/meminfo

```

MemTotal:      132105372 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 Sep 14 18:09

SPEC is set to: /usr/cpu2006

```

Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/mapper/VolGroup-lv_root
                ext4      394G  71G  304G  19% /

```

Additional information from dmidecode:

```

Memory:
8x Hynix HMT42GR7MFR4C-PB 16 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 = "/usr/cpu2006/libs/32:/usr/cpu2006/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>



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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:

-xAVX -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3

C++ benchmarks:

-xAVX -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



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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.xalanbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
 -no-prec-div(pass 2) -prof-use(pass 2) -auto-ilp32

401.bzip2: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
 -no-prec-div(pass 2) -prof-use(pass 2) -opt-prefetch
 -auto-ilp32 -ansi-alias

403.gcc: -xAVX -ipo -O3 -no-prec-div

429.mcf: basepeak = yes

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

456.hmmer: -xAVX -ipo -O3 -no-prec-div -unroll2 -auto-ilp32

458.sjeng: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
 -no-prec-div(pass 2) -prof-use(pass 2) -unroll4
 -auto-ilp32

462.libquantum: basepeak = yes

464.h264ref: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
 -no-prec-div(pass 2) -prof-use(pass 2) -unroll2
 -ansi-alias

C++ benchmarks:

471.omnetpp: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(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

483.xalanbmk: basepeak = yes



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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/Acer-Platform-Settings-V1.2-aw170hf2-revA.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/Acer-Platform-Settings-V1.2-aw170hf2-revA.xml>

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

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