



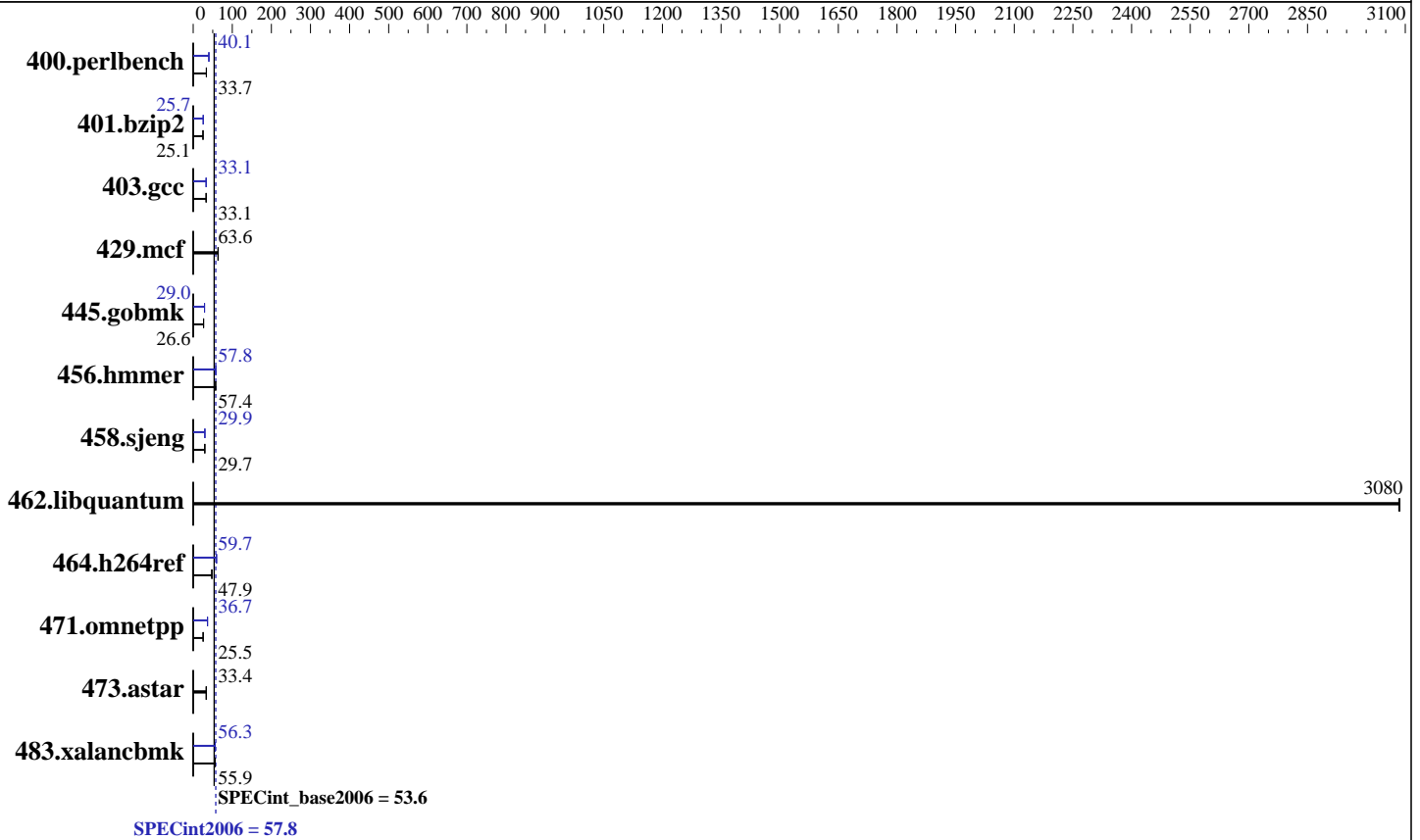
# SPEC® CINT2006 Result

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**Acer Incorporated**  
**Acer AR380 F2 (Xeon E5-2690)**

**SPECint®2006 = 57.8**  
**SPECint\_base2006 = 53.6**

<b>CPU2006 license:</b> 97	<b>Test date:</b> Sep-2012
<b>Test sponsor:</b> Acer Incorporated	<b>Hardware Availability:</b> Jun-2012
<b>Tested by:</b> Acer Incorporated	<b>Software Availability:</b> Dec-2011



**Hardware**

CPU Name: Intel Xeon E5-2690  
CPU Characteristics: Intel Turbo Boost Technology up to 3.80 GHz  
CPU MHz: 2900  
FPU: Integrated  
CPU(s) enabled: 16 cores, 2 chips, 8 cores/chip, 2 threads/core  
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: 20 MB I+D on chip per chip  
Other Cache: None  
Memory: 128 GB (16 x 8 GB 2Rx4 PC3L-10600R-9, ECC)  
Disk Subsystem: 1 x 600 GB SAS, 10K 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: Yes  
File System: ext4  
System State: Run level 3 (multi-user)  
Base Pointers: 32/64-bit  
Peak Pointers: 32/64-bit  
Other Software: Microquill SmartHeap V9.01



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## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	<b><u>290</u></b>	<b><u>33.7</u></b>	291	33.6	289	33.9	244	40.1	243	40.2	<b><u>244</u></b>	<b><u>40.1</u></b>
401.bzip2	385	25.1	384	25.2	<b><u>384</u></b>	<b><u>25.1</u></b>	<b><u>376</u></b>	<b><u>25.7</u></b>	375	25.7	376	25.6
403.gcc	242	33.2	<b><u>243</u></b>	<b><u>33.1</u></b>	244	33.0	244	33.0	242	33.3	<b><u>243</u></b>	<b><u>33.1</u></b>
429.mcf	<b><u>143</u></b>	<b><u>63.6</u></b>	144	63.3	142	64.2	<b><u>143</u></b>	<b><u>63.6</u></b>	144	63.3	142	64.2
445.gobmk	395	26.6	395	26.6	<b><u>395</u></b>	<b><u>26.6</u></b>	<b><u>362</u></b>	<b><u>29.0</u></b>	362	29.0	362	29.0
456.hammer	163	57.4	163	57.4	<b><u>163</u></b>	<b><u>57.4</u></b>	161	57.8	<b><u>161</u></b>	<b><u>57.8</u></b>	162	57.8
458.sjeng	<b><u>407</u></b>	<b><u>29.7</u></b>	408	29.7	407	29.7	<b><u>405</u></b>	<b><u>29.9</u></b>	405	29.9	405	29.9
462.libquantum	6.71	3090	6.72	3080	<b><u>6.72</u></b>	<b><u>3080</u></b>	6.71	3090	6.72	3080	<b><u>6.72</u></b>	<b><u>3080</u></b>
464.h264ref	<b><u>462</u></b>	<b><u>47.9</u></b>	467	47.4	462	47.9	<b><u>371</u></b>	<b><u>59.7</u></b>	371	59.7	371	59.6
471.omnetpp	246	25.4	245	25.5	<b><u>245</u></b>	<b><u>25.5</u></b>	170	36.7	<b><u>170</u></b>	<b><u>36.7</u></b>	172	36.4
473.astar	<b><u>210</u></b>	<b><u>33.4</u></b>	210	33.5	211	33.3	<b><u>210</u></b>	<b><u>33.4</u></b>	210	33.5	211	33.3
483.xalancbmk	124	55.6	<b><u>124</u></b>	<b><u>55.9</u></b>	123	55.9	122	56.5	<b><u>123</u></b>	<b><u>56.3</u></b>	123	56.2

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

```
Sysinfo program /usr/cpu2006/config/sysinfo.rev6800
$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3
running on spec Thu Sep 20 09:26:15 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 E5-2690 0 @ 2.90GHz
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 0 1 2 3 4 5 6 7
physical 1: cores 0 1 2 3 4 5 6 7
cache size : 20480 KB
```

```
From /proc/meminfo
MemTotal: 132269584 kB
```

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## Platform Notes (Continued)

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 spec 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 18 18:41
```

```
SPEC is set to: /usr/cpu2006
Filesystem      Type      Size      Used Avail Use% Mounted on
/dev/sdal        ext4      424G      89G   314G   23% /
```

Additional information from dmidecode:

```
Memory:
14x Hynix Semiconducto HMT31GR7CFR4A 8 GB 1333 MHz 1 rank
2x Hynix Semiconductor HMT31GR7CFR4A- 8 GB 1333 MHz 1 rank
```

(End of data from sysinfo program)

## General Notes

Environment variables set by runspec before the start of the run:  
KMP\_AFFINITY = "granularity=fine,compact,1,0"  
LD\_LIBRARY\_PATH = "/usr/cpu2006/libs/32:/usr/cpu2006/libs/64"  
OMP\_NUM\_THREADS = "16"

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  
runspec command invoked through numactl i.e.:  
numactl --interleave=all runspec <etc>

## Base Compiler Invocation

C benchmarks:  
icc -m64

C++ benchmarks:  
icpc -m64



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## Base Portability Flags

```

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
471.omnetpp: -DSPEC_CPU_LP64
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

```

## Base Optimization Flags

C benchmarks:

-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32

C++ benchmarks:

-xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -Wl,-z,muldefs  
-L/smarterheap -lsmarterheap64

## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m64

400.perlbench: icc -m32

445.gobmk: icc -m32

464.h264ref: icc -m32

C++ benchmarks (except as noted below):

icpc -m32

473.astar: icpc -m64



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## Peak Portability Flags

```

400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -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) -opt-prefetch
               -ansi-alias

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

403.gcc: -xAVX -ipo -O3 -no-prec-div -inline-calloc
          -opt-malloc-options=3 -auto-ilp32

429.mcf: basepeak = yes

445.gobmk: -xAVX(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
            -ansi-alias

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

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

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)
              -opt-ra-region-strategy=block -ansi-alias
              -Wl,-z,muldefs -L/smartheap -lsmartheap

```

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## Peak Optimization Flags (Continued)

473.astar: basepeak = yes

483.xalancbmk: -xAVX -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias  
-Wl,-z,muldefs -L/smartheap -lsmartheap

## Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

The flags file that was used to format this result can be browsed at  
<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.html>

You can also download the XML flags source by saving the following link:  
<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml>

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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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