



# SPEC<sup>®</sup> CINT2006 Result

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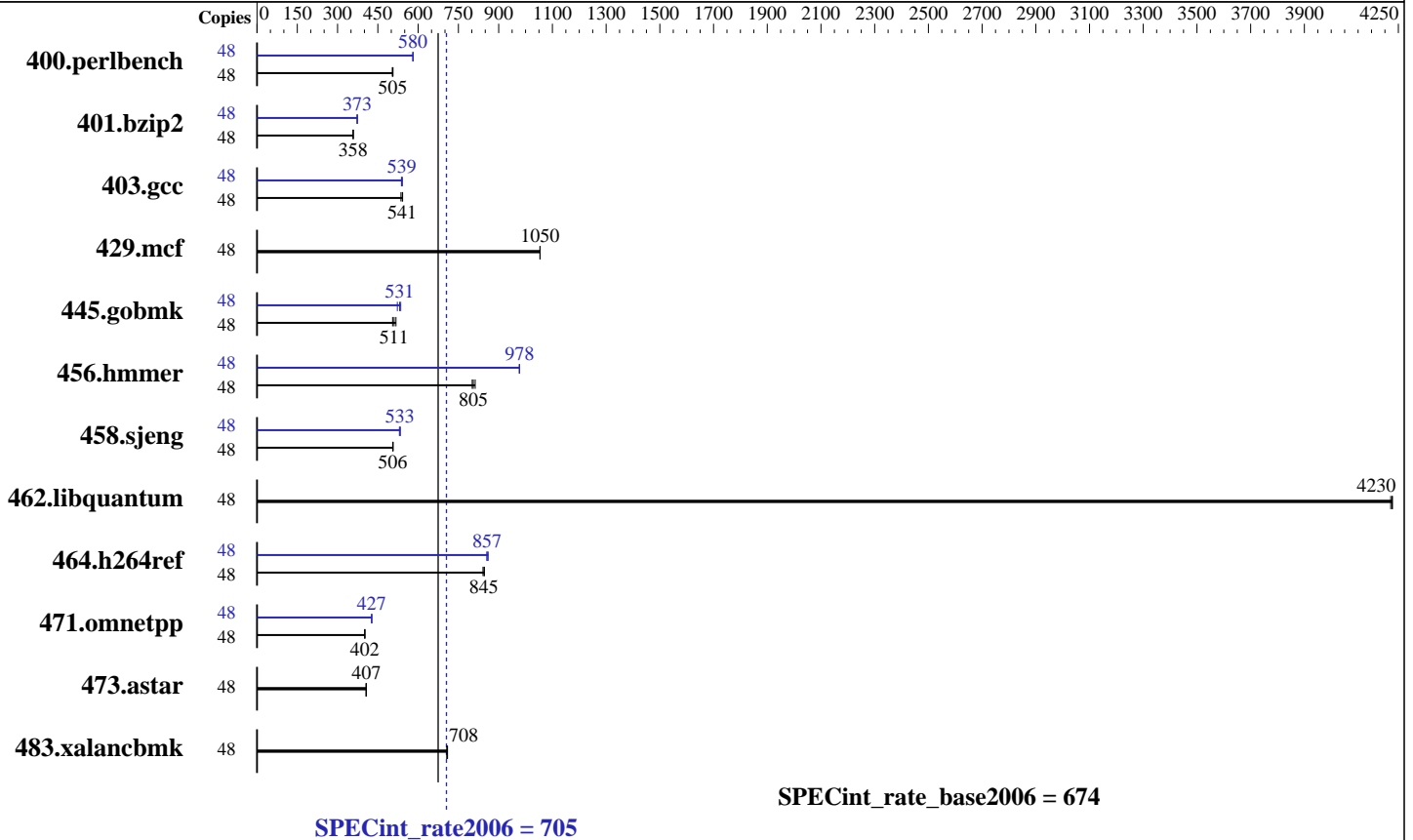
**Acer Incorporated**  
**Acer AR580 F2 (Xeon E5-4607)**

**SPECint<sup>®</sup>\_rate2006 = 705**

**SPECint\_rate\_base2006 = 674**

**CPU2006 license:** 97  
**Test sponsor:** Acer Incorporated  
**Tested by:** Acer Incorporated

**Test date:** Nov-2012  
**Hardware Availability:** Dec-2012  
**Software Availability:** Dec-2011



## Hardware

**CPU Name:** Intel Xeon E5-4607  
**CPU Characteristics:**  
**CPU MHz:** 2200  
**FPU:** Integrated  
**CPU(s) enabled:** 24 cores, 4 chips, 6 cores/chip, 2 threads/core  
**CPU(s) orderable:** 2,4 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:** 12 MB I+D on chip per chip  
**Other Cache:** None  
**Memory:** 256 GB (32 x 8 GB 2Rx4 PC3-12800R-11, ECC, running at 1066 MHz and CL 7)  
**Disk Subsystem:** 1 x 300 GB SAS, 15K RPM  
**Other Hardware:** None

## Software

**Operating System:** Red Hat Enterprise Linux Server release 6.3 (Santiago)  
 2.6.32-279.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	48	926	506	<u>928</u>	<u>505</u>	931	504	48	<u>808</u>	<u>580</u>	808	580	806	582
401.bzip2	48	<u>1294</u>	<u>358</u>	1293	358	1295	358	48	1240	374	<u>1240</u>	<u>373</u>	1243	373
403.gcc	48	713	542	<u>714</u>	<u>541</u>	721	536	48	<u>716</u>	<u>539</u>	719	538	714	541
429.mcf	48	<u>415</u>	<u>1050</u>	415	1050	416	1050	48	<u>415</u>	<u>1050</u>	415	1050	416	1050
445.gobmk	48	<u>986</u>	<u>511</u>	997	505	973	517	48	941	535	964	523	<u>948</u>	<u>531</u>
456.hammer	48	559	801	551	812	<u>556</u>	<u>805</u>	48	458	978	<u>458</u>	<u>978</u>	459	977
458.sjeng	48	<u>1149</u>	<u>506</u>	1149	505	1145	507	48	1095	530	<u>1090</u>	<u>533</u>	1089	533
462.libquantum	48	<u>235</u>	<u>4230</u>	236	4220	235	4230	48	<u>235</u>	<u>4230</u>	236	4220	235	4230
464.h264ref	48	<u>1257</u>	<u>845</u>	1254	847	1262	841	48	1241	856	1234	861	<u>1239</u>	<u>857</u>
471.omnetpp	48	748	401	<u>747</u>	<u>402</u>	747	402	48	703	427	702	427	<u>703</u>	<u>427</u>
473.astar	48	828	407	<u>828</u>	<u>407</u>	830	406	48	828	407	<u>828</u>	<u>407</u>	830	406
483.xalancbmk	48	467	709	<u>468</u>	<u>708</u>	469	707	48	467	709	<u>468</u>	<u>708</u>	469	707

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

Sysinfo program /usr/cpu2006/config/sysinfo.rev6800  
\$Rev: 6800 \$ \$Date:: 2011-10-11 #\$ 6f2ebdff5032aaa42e583f96b07f99d3  
running on localhost.localdomain Sun Nov 4 12:07:48 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 : Genuine Intel(R) CPU @ 2.20GHz  
4 "physical id"s (chips)  
48 "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 : 6  
siblings : 12

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## Platform Notes (Continued)

```

physical 0: cores 0 1 2 3 4 5
physical 1: cores 0 1 2 3 4 5
physical 2: cores 0 1 2 3 4 5
physical 3: cores 0 1 2 3 4 5
cache size : 12288 KB

```

From /proc/meminfo

```

MemTotal:      264460152 kB
HugePages_Total:    0
Hugepagesize:    2048 kB

```

/usr/bin/lsb\_release -d

Red Hat Enterprise Linux Server release 6.3 (Santiago)

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

```

redhat-release: Red Hat Enterprise Linux Server release 6.3 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.3 (Santiago)
system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

```

uname -a:

```

Linux localhost.localdomain 2.6.32-279.el6.x86_64 #1 SMP Wed Jun 13 18:24:36
EDT 2012 x86_64 x86_64 x86_64 GNU/Linux

```

run-level 3 Nov 3 07:40

SPEC is set to: /usr/cpu2006

```

Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/sda2       ext4      244G  59G  173G  26% /

```

Additional information from dmidecode:

```

Memory:
32x Hynix HMT31GR7CFR4C-PB 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 = "/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 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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