



# SPEC<sup>®</sup> CINT2006 Result

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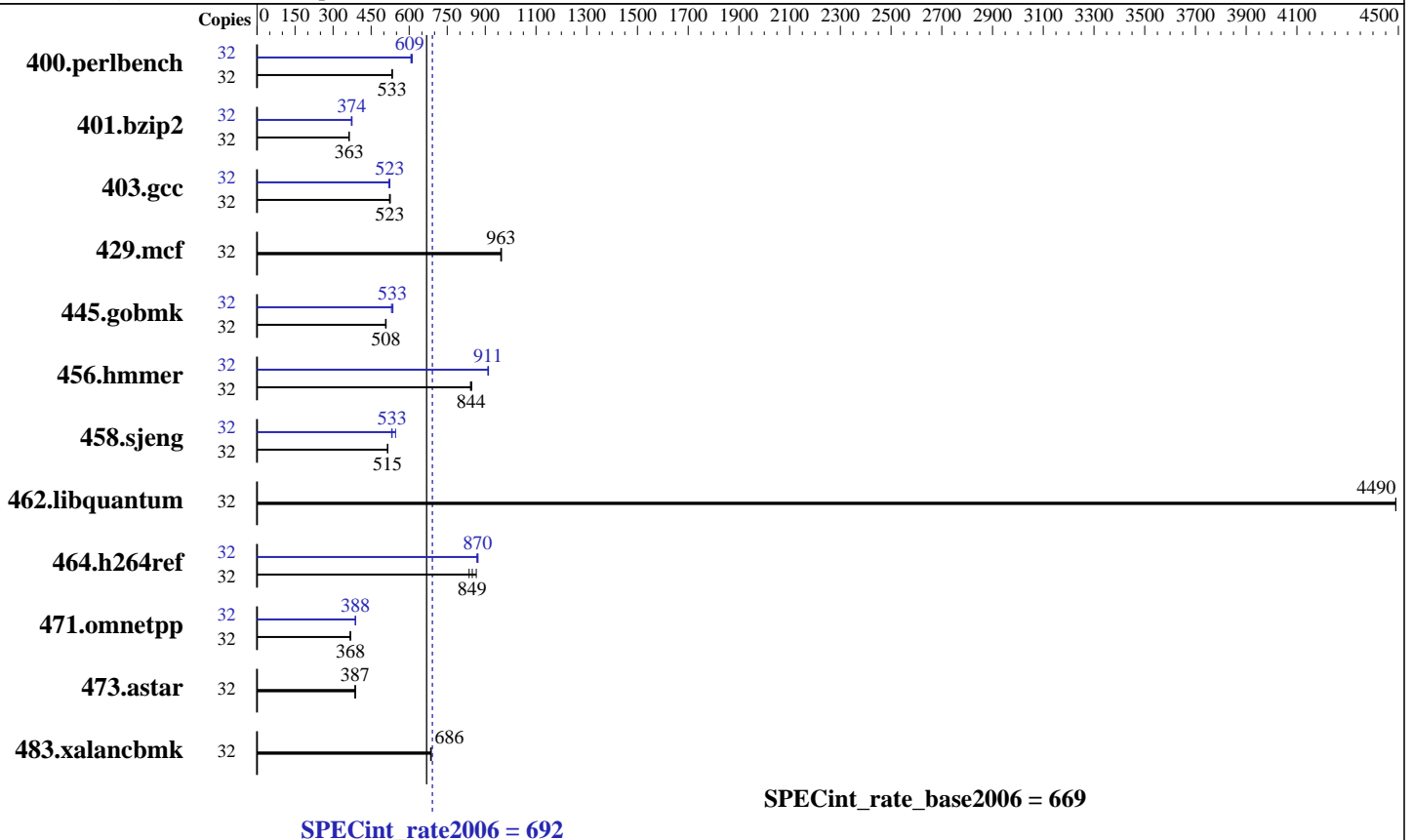
**Acer Incorporated**  
**Altos T350 F2 (Xeon E5-2690)**

**SPECint<sup>®</sup>\_rate2006 = 692**

**SPECint\_rate\_base2006 = 669**

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

**Test date:** Apr-2013  
**Hardware Availability:** May-2013  
**Software Availability:** Feb-2013



## 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 PC3-12800R-11, ECC)  
**Disk Subsystem:** 1 x 900 GB SAS, 10K 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 13.0.0.133 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 V10.0



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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	32	586	534	<u>587</u>	<u>533</u>	587	532	32	515	607	<u>514</u>	<u>609</u>	510	612
401.bzip2	32	852	362	<u>850</u>	<u>363</u>	850	363	32	825	374	830	372	<u>825</u>	<u>374</u>
403.gcc	32	490	526	<u>492</u>	<u>523</u>	493	522	32	496	519	492	524	<u>492</u>	<u>523</u>
429.mcf	32	<u>303</u>	<u>963</u>	304	961	303	964	32	<u>303</u>	<u>963</u>	304	961	303	964
445.gobmk	32	<u>661</u>	<u>508</u>	662	507	659	509	32	<u>629</u>	<u>533</u>	626	536	633	530
456.hammer	32	355	842	353	847	<u>354</u>	<u>844</u>	32	<u>328</u>	<u>911</u>	328	910	327	913
458.sjeng	32	<u>752</u>	<u>515</u>	752	515	751	515	32	709	546	730	531	<u>727</u>	<u>533</u>
462.libquantum	32	148	4490	<u>148</u>	<u>4490</u>	148	4490	32	148	4490	<u>148</u>	<u>4490</u>	148	4490
464.h264ref	32	819	864	<u>834</u>	<u>849</u>	847	836	32	817	867	<u>814</u>	<u>870</u>	813	871
471.omnetpp	32	<u>544</u>	<u>368</u>	544	368	543	368	32	<u>515</u>	<u>388</u>	516	388	515	388
473.astar	32	<u>580</u>	<u>387</u>	579	388	581	387	32	<u>580</u>	<u>387</u>	579	388	581	387
483.xalancbmk	32	323	684	321	687	<u>322</u>	<u>686</u>	32	323	684	321	687	<u>322</u>	<u>686</u>

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.rev6818  
\$Rev: 6818 \$ \$Date:: 2012-07-17 #\$ e86d102572650a6e4d596a3cee98f191  
running on t350f2 Fri Mar 29 17:39:57 2013

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

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## Platform Notes (Continued)

```
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:      132113952 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 t350f2 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 Mar 29 13:29
```

```
SPEC is set to: /usr/cpu2006
Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/sda3       ext4      700G   50G  614G   8% /
```

```
Additional information from dmidecode:
BIOS Intel Corp. SE5C600.86B.01.06.0002.110120121539 11/01/2012
Memory:
16x 8 GB
16x 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:/usr/cpu2006/sh"

```
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/sh -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/sh -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-ic13-official-linux64.html>  
<http://www.spec.org/cpu2006/flags/Acer-Platform-Settings-V1.2-revA.20130423.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic13-official-linux64.xml>  
<http://www.spec.org/cpu2006/flags/Acer-Platform-Settings-V1.2-revA.20130423.xml>

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

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