



# SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## HITACHI

**SPECint®\_rate2006 = 580**

BladeSymphony BS320 (Intel Xeon E5-2470)

**SPECint\_rate\_base2006 = 556**

CPU2006 license: 35

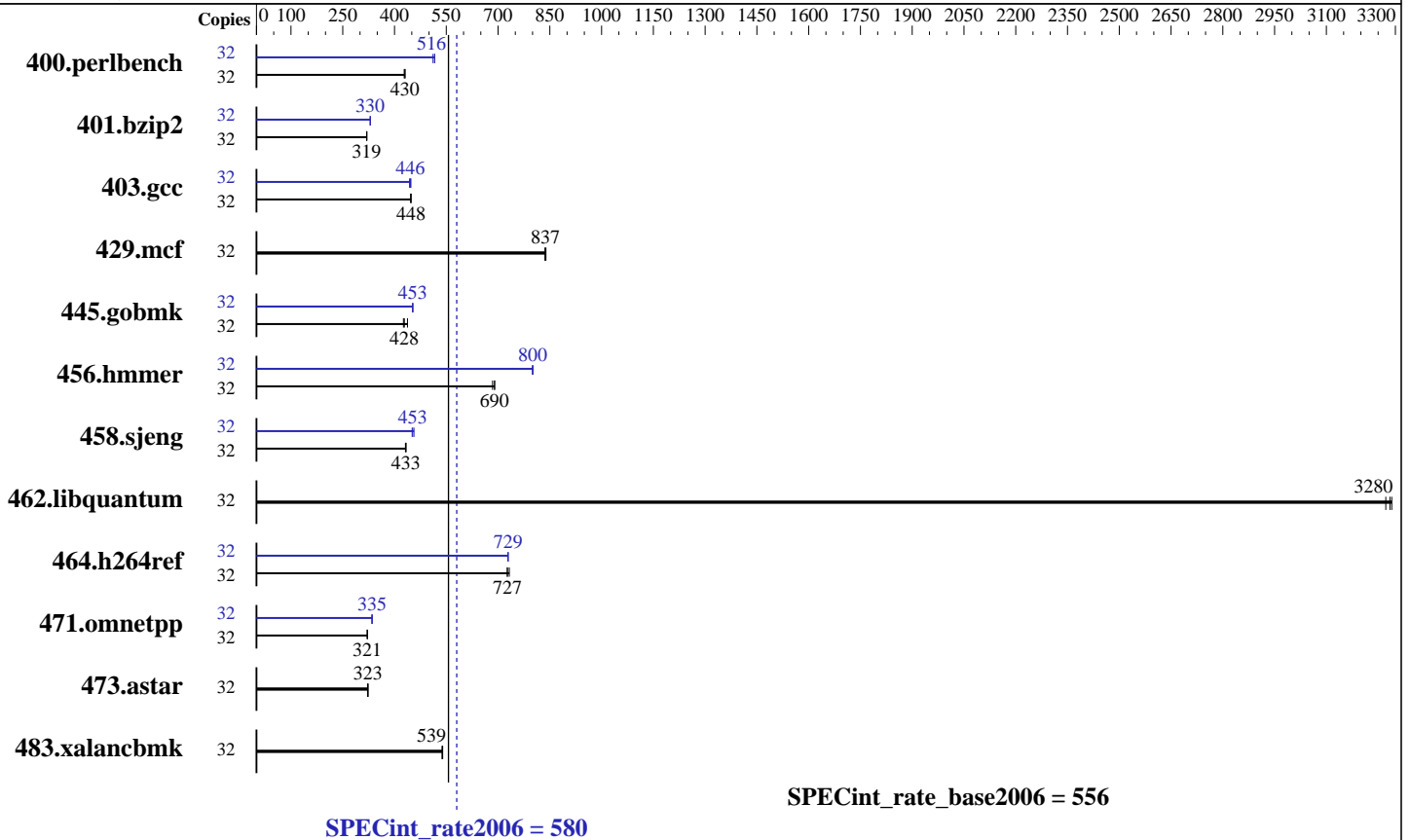
Test sponsor: HITACHI

Tested by: HITACHI

Test date: Jun-2012

Hardware Availability: Jun-2012

Software Availability: Feb-2012



### Hardware

CPU Name: Intel Xeon E5-2470  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.10 GHz  
 CPU MHz: 2300  
 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: 96 GB (12 x 8 GB 2Rx4 PC3L-12800R-11, ECC)  
 Disk Subsystem: 2 x 147 GB SAS, 15000 RPM RAID1 configuration  
 Other Hardware: None

### Software

Operating System: Red Hat Enterprise Linux Server release 6.2, Kernel 2.6.32-220.4.2.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



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## HITACHI

SPECint\_rate2006 = 580

BladeSymphony BS320 (Intel Xeon E5-2470)

SPECint\_rate\_base2006 = 556

CPU2006 license: 35  
Test sponsor: HITACHI  
Tested by: HITACHI

Test date: Jun-2012  
Hardware Availability: Jun-2012  
Software Availability: Feb-2012

## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	32	<u>727</u>	<u>430</u>	726	430	730	428	32	606	516	611	512	<u>606</u>	<u>516</u>
401.bzip2	32	<u>967</u>	<u>319</u>	968	319	965	320	32	937	330	936	330	<u>936</u>	<u>330</u>
403.gcc	32	575	448	<u>576</u>	<u>448</u>	576	447	32	581	443	576	448	<u>577</u>	<u>446</u>
429.mcf	32	349	836	<u>349</u>	<u>837</u>	348	839	32	349	836	<u>349</u>	<u>837</u>	348	839
445.gobmk	32	767	438	788	426	<u>783</u>	<u>428</u>	32	741	453	<u>741</u>	<u>453</u>	742	452
456.hammer	32	436	684	433	690	<u>433</u>	<u>690</u>	32	373	801	373	800	<u>373</u>	<u>800</u>
458.sjeng	32	893	433	<u>895</u>	<u>433</u>	897	432	32	848	456	<u>855</u>	<u>453</u>	858	451
462.libquantum	32	<u>202</u>	<u>3280</u>	203	3270	202	3290	32	<u>202</u>	<u>3280</u>	203	3270	202	3290
464.h264ref	32	967	733	<u>974</u>	<u>727</u>	974	727	32	971	729	972	729	<u>971</u>	<u>729</u>
471.omnetpp	32	624	321	<u>623</u>	<u>321</u>	622	322	32	597	335	598	335	<u>597</u>	<u>335</u>
473.astar	32	695	323	<u>696</u>	<u>323</u>	698	322	32	695	323	<u>696</u>	<u>323</u>	698	322
483.xalancbmk	32	<u>410</u>	<u>539</u>	411	538	409	540	32	<u>410</u>	<u>539</u>	411	538	409	540

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 /home/cpu2006/config/sysinfo.rev6800  
\$Rev: 6800 \$ \$Date:: 2011-10-11 #\$ 6f2ebdff5032aaa42e583f96b07f99d3  
running on localhost.localdomain Sat Jun 30 00:08:23 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 E5-2470 0 @ 2.30GHz  
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

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## HITACHI

SPECint\_rate2006 = 580

BladeSymphony BS320 (Intel Xeon E5-2470)

SPECint\_rate\_base2006 = 556

CPU2006 license: 35

Test sponsor: HITACHI

Tested by: HITACHI

Test date: Jun-2012

Hardware Availability: Jun-2012

Software Availability: Feb-2012

### 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:      99008120 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 2.6.32-220.4.2.el6.x86_64 #1 SMP Mon Feb 6
16:39:28 EST 2012 x86_64 x86_64 x86_64 GNU/Linux
```

```
run-level 3 Jun 29 23:59
```

(End of data from sysinfo program)

### General Notes

Environment variables set by runspec before the start of the run:  
LD\_LIBRARY\_PATH = "/home/cpu2006/libs/32:/home/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>
```

### Base Compiler Invocation

C benchmarks:  
icc -m32

C++ benchmarks:  
icpc -m32



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**HITACHI**

**SPECint\_rate2006 = 580**

**BladeSymphony BS320 (Intel Xeon E5-2470)**

**SPECint\_rate\_base2006 = 556**

**CPU2006 license:** 35

**Test sponsor:** HITACHI

**Tested by:** HITACHI

**Test date:** Jun-2012

**Hardware Availability:** Jun-2012

**Software Availability:** Feb-2012

## 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.hmmmer: icc -m64

458.sjeng: icc -m64

C++ benchmarks:  
icpc -m32

## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_LINUX\_X64  
401.bzip2: -DSPEC\_CPU\_LP64  
456.hmmmer: -DSPEC\_CPU\_LP64  
458.sjeng: -DSPEC\_CPU\_LP64

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**HITACHI**

**SPECint\_rate2006 = 580**

**BladeSymphony BS320 (Intel Xeon E5-2470)**

**SPECint\_rate\_base2006 = 556**

**CPU2006 license:** 35

**Test date:** Jun-2012

**Test sponsor:** HITACHI

**Hardware Availability:** Jun-2012

**Tested by:** HITACHI

**Software Availability:** Feb-2012

## Peak Portability Flags (Continued)

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)  
-O3(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)  
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)  
-opt-prefetch -auto-ilp32 -ansi-alias

403.gcc: -xSSE4.2 -ipo -O3 -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 -O3 -no-prec-div -unroll2 -auto-ilp32

458.sjeng: -xSSE4.2(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: -xSSE4.2(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: -xSSE4.2(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.xalancbmk: basepeak = yes



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**HITACHI**

**SPECint\_rate2006 = 580**

**BladeSymphony BS320 (Intel Xeon E5-2470)**

**SPECint\_rate\_base2006 = 556**

**CPU2006 license:** 35

**Test sponsor:** HITACHI

**Tested by:** HITACHI

**Test date:** Jun-2012

**Hardware Availability:** Jun-2012

**Software Availability:** Feb-2012

## 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/PlatformHitachi-V1.2.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/PlatformHitachi-V1.2.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](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.2.  
Report generated on Thu Jul 24 11:29:29 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 31 July 2012.