



# SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## HITACHI

SPECint®\_rate2006 = 646

BladeSymphony BS2000 (Intel Xeon E5-2670)

SPECint\_rate\_base2006 = 620

CPU2006 license: 35

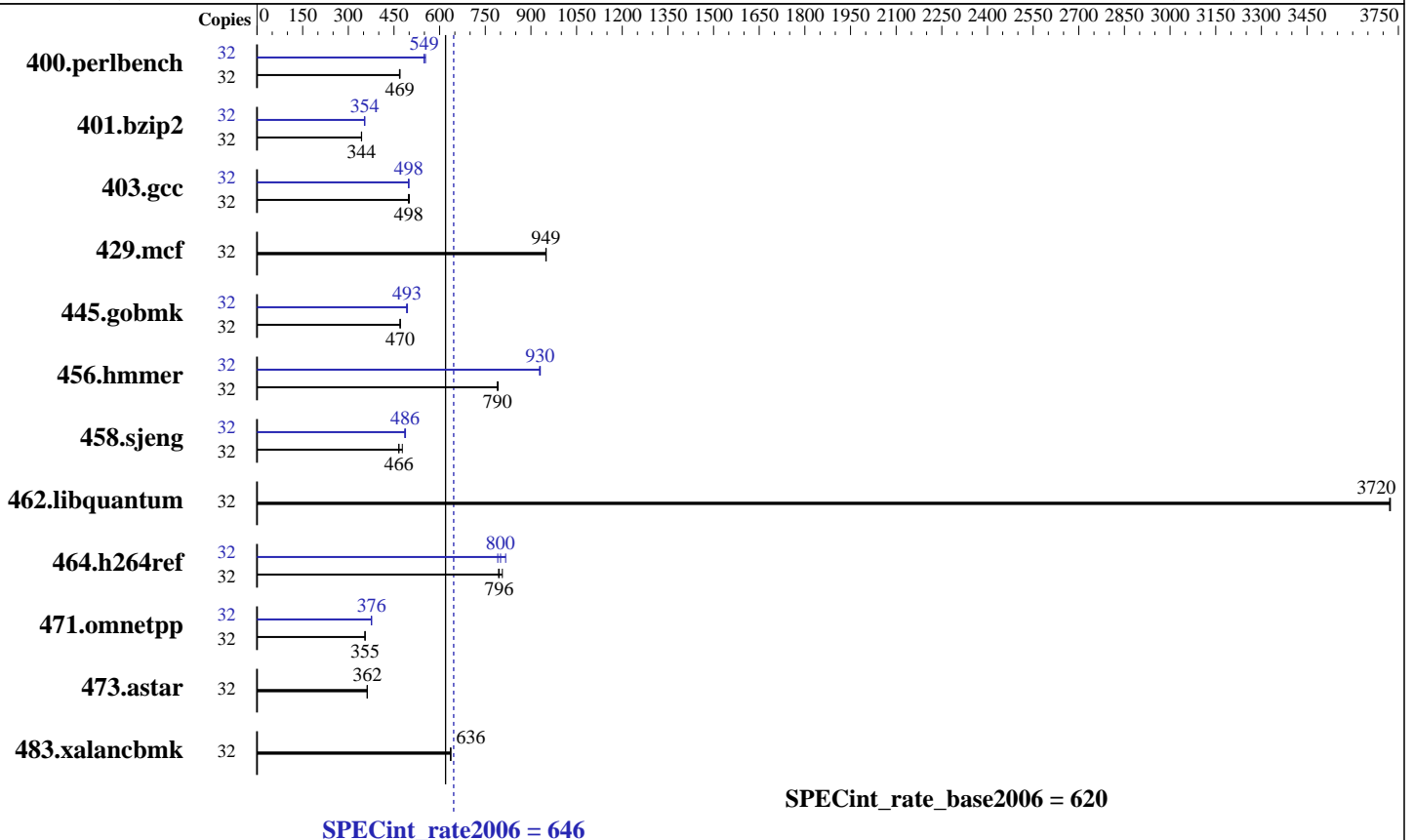
Test date: Jun-2012

Test sponsor: HITACHI

Hardware Availability: Aug-2012

Tested by: HITACHI

Software Availability: Feb-2012



### Hardware

CPU Name: Intel Xeon E5-2670  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.30 GHz  
 CPU MHz: 2600  
 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-12800R-11, ECC)  
 Disk Subsystem: 2 x 300 GB SAS, 10000 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 = 646

BladeSymphony BS2000 (Intel Xeon E5-2670)

SPECint\_rate\_base2006 = 620

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

Test date: Jun-2012  
Hardware Availability: Aug-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	666	470	668	468	<b>666</b>	<b>469</b>	32	565	554	<b>569</b>	<b>549</b>	569	549		
401.bzip2	32	900	343	<b>899</b>	<b>344</b>	899	344	32	872	354	<b>873</b>	<b>354</b>	875	353		
403.gcc	32	<b>517</b>	<b>498</b>	515	501	518	498	32	516	499	518	498	<b>517</b>	<b>498</b>		
429.mcf	32	307	950	<b>307</b>	<b>949</b>	308	949	32	307	950	<b>307</b>	<b>949</b>	308	949		
445.gobmk	32	713	471	<b>714</b>	<b>470</b>	714	470	32	<b>680</b>	<b>493</b>	683	491	679	494		
456.hammer	32	378	790	<b>378</b>	<b>790</b>	377	792	32	321	931	<b>321</b>	<b>930</b>	322	928		
458.sjeng	32	<b>830</b>	<b>466</b>	811	477	831	466	32	794	488	797	486	<b>796</b>	<b>486</b>		
462.libquantum	32	178	3720	178	3720	<b>178</b>	<b>3720</b>	32	178	3720	178	3720	<b>178</b>	<b>3720</b>		
464.h264ref	32	878	806	892	794	<b>890</b>	<b>796</b>	32	867	817	<b>885</b>	<b>800</b>	895	791		
471.omnetpp	32	<b>563</b>	<b>355</b>	563	355	564	355	32	532	376	<b>532</b>	<b>376</b>	532	376		
473.astar	32	620	362	621	362	<b>620</b>	<b>362</b>	32	620	362	621	362	<b>620</b>	<b>362</b>		
483.xalancbmk	32	347	636	<b>347</b>	<b>636</b>	347	636	32	347	636	<b>347</b>	<b>636</b>	347	636		

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:

Adjacent Cache Line Prefetch = Enabled

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

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

running on localhost.localdomain Fri Jun 15 04:07:29 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 E5-2670 0 @ 2.60GHz

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

Continued on next page

Standard Performance Evaluation Corporation

info@spec.org

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



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## HITACHI

**SPECint\_rate2006 = 646**

BladeSymphony BS2000 (Intel Xeon E5-2670)

**SPECint\_rate\_base2006 = 620**

CPU2006 license: 35

Test sponsor: HITACHI

Tested by: HITACHI

Test date: Jun-2012

Hardware Availability: Aug-2012

Software Availability: Feb-2012

### Platform Notes (Continued)

```

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:      132147320 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 15 03:44

(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>

```

HITACHI BladeSymphony BS2000 and HITACHI Compute Blade 2000 are electronically equivalent. The results have been measured on a HITACHI BladeSymphony BS2000.

### Base Compiler Invocation

C benchmarks:  
icc -m32

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**HITACHI**

**SPECint\_rate2006 = 646**

**BladeSymphony BS2000 (Intel Xeon E5-2670)**

**SPECint\_rate\_base2006 = 620**

**CPU2006 license:** 35

**Test sponsor:** HITACHI

**Tested by:** HITACHI

**Test date:** Jun-2012

**Hardware Availability:** Aug-2012

**Software Availability:** Feb-2012

## Base Compiler Invocation (Continued)

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:  
-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.hmmer: icc -m64

458.sjeng: icc -m64

C++ benchmarks:  
icpc -m32



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## HITACHI

SPECint\_rate2006 = 646

BladeSymphony BS2000 (Intel Xeon E5-2670)

SPECint\_rate\_base2006 = 620

CPU2006 license: 35

Test sponsor: HITACHI

Tested by: HITACHI

Test date: Jun-2012

Hardware Availability: Aug-2012

Software Availability: Feb-2012

## 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.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

Continued on next page



# SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

**HITACHI**

**SPECint\_rate2006 = 646**

**BladeSymphony BS2000 (Intel Xeon E5-2670)**

**SPECint\_rate\_base2006 = 620**

**CPU2006 license:** 35

**Test date:** Jun-2012

**Test sponsor:** HITACHI

**Hardware Availability:** Aug-2012

**Tested by:** HITACHI

**Software Availability:** Feb-2012

## Peak Optimization Flags (Continued)

483.xalanbmk: basepeak = yes

## 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 09:39:12 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 3 July 2012.