



# SPEC<sup>®</sup> CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

## HITACHI

### SPECint<sup>®</sup>\_rate2006 = 1230

### Compute Blade 540A (Intel Xeon E5-4650)

### SPECint\_rate\_base2006 = 1180

CPU2006 license: 35

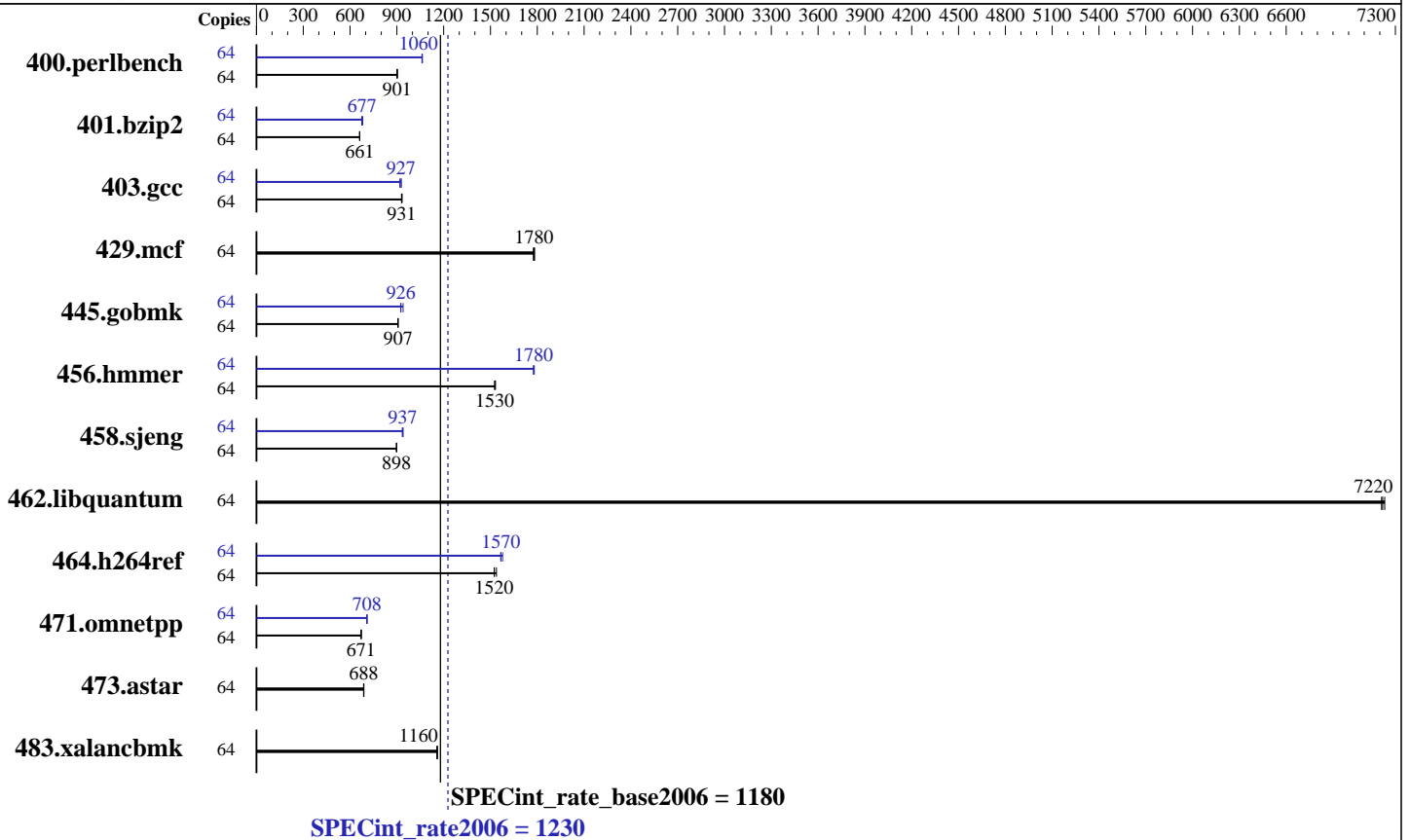
Test sponsor: HITACHI

Tested by: HITACHI

Test date: Jul-2012

Hardware Availability: Sep-2012

Software Availability: Dec-2011



### Hardware

CPU Name: Intel Xeon E5-4650  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.30 GHz  
 CPU MHz: 2700  
 FPU: Integrated  
 CPU(s) enabled: 32 cores, 4 chips, 8 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: 20 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 256 GB (32 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.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 = 1230

Compute Blade 540A (Intel Xeon E5-4650)

SPECint\_rate\_base2006 = 1180

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

Test date: Jul-2012  
Hardware Availability: Sep-2012  
Software Availability: Dec-2011

### Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	64	<b>694</b>	<b>901</b>	694	901	692	904	64	588	1060	589	1060	<b>588</b>	<b>1060</b>
401.bzip2	64	934	661	933	662	<b>934</b>	<b>661</b>	64	<b>912</b>	<b>677</b>	906	681	915	675
403.gcc	64	552	934	554	930	<b>553</b>	<b>931</b>	64	561	919	<b>556</b>	<b>927</b>	555	928
429.mcf	64	<b>328</b>	<b>1780</b>	327	1780	329	1770	64	<b>328</b>	<b>1780</b>	327	1780	329	1770
445.gobmk	64	<b>740</b>	<b>907</b>	739	908	741	907	64	<b>725</b>	<b>926</b>	726	925	714	940
456.hammer	64	<b>391</b>	<b>1530</b>	391	1530	390	1530	64	336	1780	335	1780	<b>336</b>	<b>1780</b>
458.sjeng	64	863	897	862	898	<b>863</b>	<b>898</b>	64	824	940	<b>826</b>	<b>937</b>	829	935
462.libquantum	64	<b>184</b>	<b>7220</b>	184	7210	183	7230	64	<b>184</b>	<b>7220</b>	184	7210	183	7230
464.h264ref	64	<b>929</b>	<b>1520</b>	929	1520	921	1540	64	<b>904</b>	<b>1570</b>	898	1580	905	1570
471.omnetpp	64	596	671	<b>596</b>	<b>671</b>	596	671	64	566	707	<b>565</b>	<b>708</b>	564	709
473.astar	64	654	686	<b>653</b>	<b>688</b>	653	688	64	654	686	<b>653</b>	<b>688</b>	653	688
483.xalancbmk	64	382	1160	381	1160	<b>381</b>	<b>1160</b>	64	382	1160	381	1160	<b>381</b>	<b>1160</b>

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 /work/cpu2006/config/sysinfo.rev6800  
\$Rev: 6800 \$ \$Date:: 2011-10-11 #\$ 6f2ebdff5032aaa42e583f96b07f99d3  
running on localhost.localdomain Sat Jul 14 06:52:13 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 E5-4650 0 @ 2.70GHz
 4 "physical id"s (chips)
 64 "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 = 1230

Compute Blade 540A (Intel Xeon E5-4650)

SPECint\_rate\_base2006 = 1180

CPU2006 license: 35

Test sponsor: HITACHI

Tested by: HITACHI

Test date: Jul-2012

Hardware Availability: Sep-2012

Software Availability: Dec-2011

### 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
physical 2: cores 0 1 2 3 4 5 6 7
physical 3: cores 0 1 2 3 4 5 6 7
cache size : 20480 KB

```

From /proc/meminfo

MemTotal: 264507096 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.el6.x86\_64 #1 SMP Wed Nov 9 08:03:13 EST 2011 x86\_64 x86\_64 x86\_64 GNU/Linux

run-level 3 Jul 14 06:41

(End of data from sysinfo program)

### General Notes

Environment variables set by runspec before the start of the run:

LD\_LIBRARY\_PATH = "/work/cpu2006/libs/32:/work/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 BS540A and HITACHI Compute Blade 540A are electronically equivalent. The results have been measured on a HITACHI BladeSymphony BS540A.

### Base Compiler Invocation

C benchmarks:

icc -m32

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 = 1230**

**Compute Blade 540A (Intel Xeon E5-4650)**

**SPECint\_rate\_base2006 = 1180**

**CPU2006 license:** 35

**Test sponsor:** HITACHI

**Tested by:** HITACHI

**Test date:** Jul-2012

**Hardware Availability:** Sep-2012

**Software Availability:** Dec-2011

## 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 = 1230

Compute Blade 540A (Intel Xeon E5-4650)

SPECint\_rate\_base2006 = 1180

CPU2006 license: 35

Test sponsor: HITACHI

Tested by: HITACHI

Test date: Jul-2012

Hardware Availability: Sep-2012

Software Availability: Dec-2011

## 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 = 1230**

**Compute Blade 540A (Intel Xeon E5-4650)**

**SPECint\_rate\_base2006 = 1180**

**CPU2006 license:** 35

**Test sponsor:** HITACHI

**Tested by:** HITACHI

**Test date:** Jul-2012

**Hardware Availability:** Sep-2012

**Software Availability:** Dec-2011

## 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 14:00:56 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 25 October 2012.