



SPEC® CINT2006 Result

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HITACHI

SPECint®_rate2006 = 939

Hitachi Compute Blade 520H (Intel Xeon E5-2697 v2)

SPECint_rate_base2006 = 911

CPU2006 license: 35

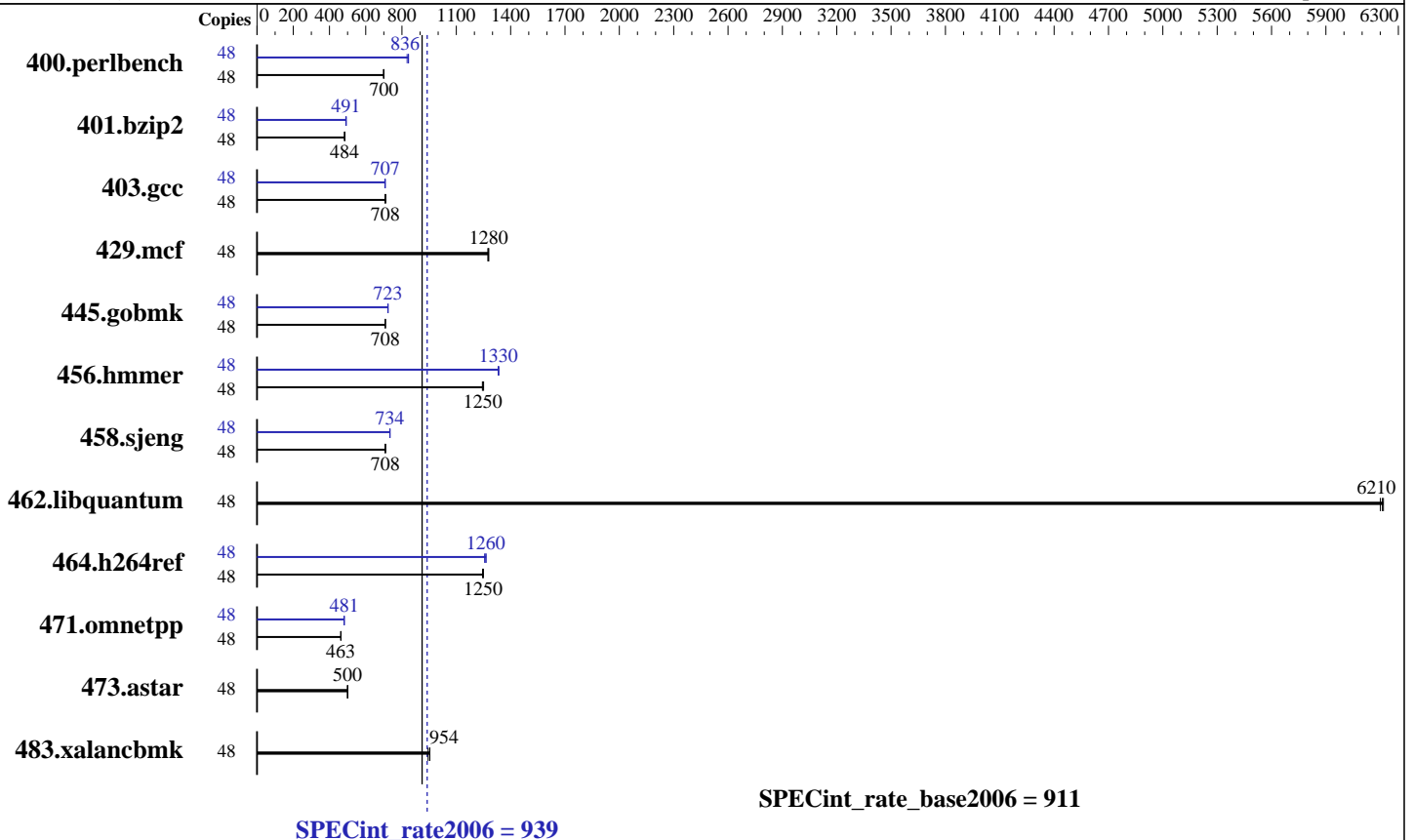
Test sponsor: HITACHI

Tested by: HITACHI

Test date: Feb-2014

Hardware Availability: Feb-2014

Software Availability: Sep-2013



Hardware

CPU Name: Intel Xeon E5-2697 v2
 CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz
 CPU MHz: 2700
 FPU: Integrated
 CPU(s) enabled: 24 cores, 2 chips, 12 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: 30 MB I+D on chip per chip
 Other Cache: None
 Memory: 128 GB (8 x 16 GB 2Rx4 PC3-14900R-13, ECC)

Disk Subsystem: 1 x 146 GB SAS, 15000 RPM
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 6.4 (Santiago)
 2.6.32-358.el6.x86_64
 Compiler: C/C++: Version 14.0.0.080 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	48	670	700	672	698	670	700	48	561	836	561	836	566	828
401.bzip2	48	961	482	954	486	957	484	48	944	491	939	493	945	490
403.gcc	48	544	711	546	708	547	706	48	547	706	546	707	546	708
429.mcf	48	342	1280	342	1280	344	1270	48	342	1280	342	1280	344	1270
445.gobmk	48	711	709	711	708	711	708	48	696	723	696	724	697	722
456.hammer	48	358	1250	359	1250	360	1240	48	336	1330	336	1330	335	1340
458.sjeng	48	821	707	818	710	821	708	48	791	734	792	733	791	734
462.libquantum	48	160	6210	160	6220	160	6200	48	160	6210	160	6220	160	6200
464.h264ref	48	850	1250	851	1250	853	1250	48	840	1260	841	1260	846	1260
471.omnetpp	48	648	463	647	463	649	462	48	623	482	624	481	624	481
473.astar	48	672	501	675	500	675	499	48	672	501	675	500	675	499
483.xalancbmk	48	347	954	347	954	351	944	48	347	954	347	954	351	944

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.rev6818
\$Rev: 6818 \$ \$Date:: 2012-07-17 #\$ e86d102572650a6e4d596a3cee98f191
running on localhost.localdomain Wed Feb 26 16:17:40 2014

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 E5-2697 v2 @ 2.70GHz
 2 "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 : 12
siblings  : 24
```

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Platform Notes (Continued)

```
physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 13
physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 13
cache size : 30720 KB
```

```
From /proc/meminfo
MemTotal:      132333240 kB
HugePages_Total:      0
Hugepagesize:    2048 kB
```

```
/usr/bin/lsb_release -d
Red Hat Enterprise Linux Server release 6.4 (Santiago)
```

```
From /etc/*release* /etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server
```

```
uname -a:
Linux localhost.localdomain 2.6.32-358.el6.x86_64 #1 SMP Tue Jan 29 11:47:41
EST 2013 x86_64 x86_64 x86_64 GNU/Linux
```

```
run-level 3 Feb 26 16:10
```

```
SPEC is set to: /home/cpu2006
Filesystem      Type      Size  Used Avail Use% Mounted on
/dev/mapper/VolGroup-lv_root
ext4            133G    16G  111G  13% /
```

```
Additional information from dmidecode:
BIOS HITACHI EP1043 02/04/2014
Memory:
16x Not Specified Not Specified
8x Samsung M393B2G70QH0-CMA 16 GB 1867 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 = "/home/cpu2006/libs/32:/home/cpu2006/libs/64:/home/cpu2006/sh"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RedHat EL 6.4
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>
BladeSymphony BS520H and Hitachi Compute Blade 520H are electronically equivalent.
The results have been measured on a BladeSymphony BS520H



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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:

-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/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.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/sh -lsmartheap

473.astar: basepeak = yes

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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-ic14.0-official-linux64.20140128.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-ic14.0-official-linux64.20140128.xml>

<http://www.spec.org/cpu2006/flags/PlatformHitachi-V1.2.xml>

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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