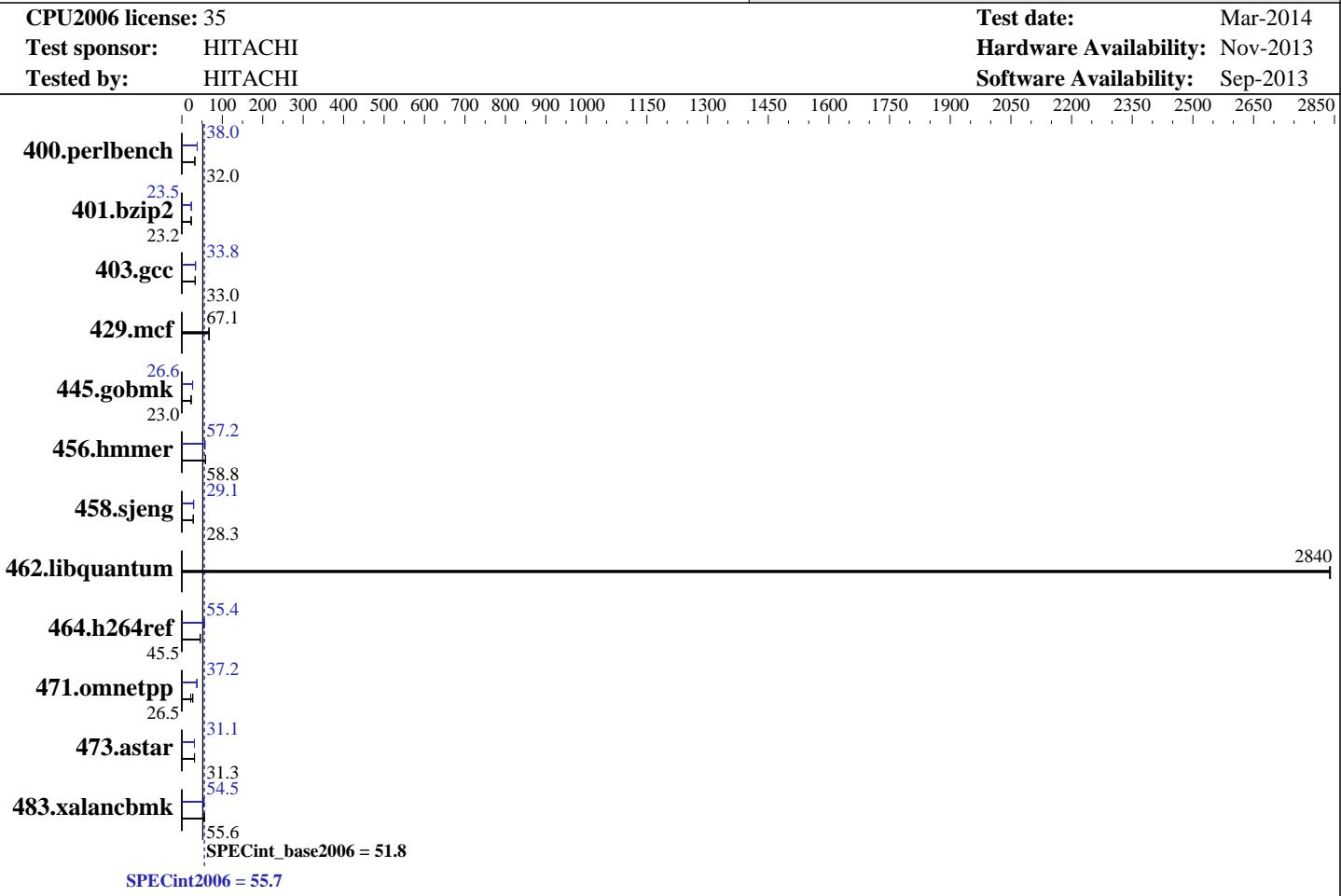# SPEC® CINT2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

HITACHI

BladeSymphony BS2000 (Intel Xeon E5-2650 v2)

SPECint®2006 = 55.7

SPECint_base2006 = 51.8

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

Test date: Mar-2014
Hardware Availability: Nov-2013
Software Availability: Sep-2013

Benchmark	base	peak
400.perlbench	32.0	38.0
401.bzip2	23.2	23.5
403.gcc	33.0	33.8
429.mcf	67.1	
445.gobmk	23.0	26.6
456.hmmer	58.8	57.2
458.sjeng	28.3	29.1
462.libquantum	2840	
464.h264ref	45.5	55.4
471.omnetpp	26.5	37.2
473.astar	31.3	31.1
483.xalancbmk	55.6	54.5

SPECint_base2006 = 51.8

SPECint2006 = 55.7

Hardware

CPU Name: Intel Xeon E5-2650 v2
CPU Characteristics: Intel Turbo Boost Technology up to 3.40 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 (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) 2.6.32-358.23.2.el6.x86_64
Compiler: C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux
Auto Parallel: Yes
File System: ext4
System State: Run level 3 (multi-user)
Base Pointers: 32/64-bit
Peak Pointers: 32/64-bit
Other Software: Microquill SmartHeap V10.0

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Results Table

Benchmark	Base Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	304	32.1	**305**	**32.0**	306	32.0	**257**	**38.0**	256	38.1	257	38.0
401.bzip2	416	23.2	**416**	**23.2**	416	23.2	**411**	**23.5**	411	23.5	411	23.5
403.gcc	**244**	**33.0**	244	33.0	244	33.1	238	33.8	**238**	**33.8**	238	33.8
429.mcf	134	68.0	137	66.6	**136**	**67.1**	134	68.0	137	66.6	**136**	**67.1**
445.gobmk	455	23.1	456	23.0	**456**	**23.0**	394	26.7	**394**	**26.6**	394	26.6
456.hmmer	158	58.9	**159**	**58.8**	160	58.2	163	57.3	**163**	**57.2**	165	56.6
458.sjeng	427	28.3	**427**	**28.3**	427	28.3	416	29.1	**416**	**29.1**	416	29.1
462.libquantum	**7.30**	**2840**	7.30	2840	7.30	2840	**7.30**	**2840**	7.30	2840	7.30	2840
464.h264ref	488	45.4	**487**	**45.5**	487	45.5	399	55.5	**399**	**55.4**	400	55.3
471.omnetpp	285	21.9	**236**	**26.5**	228	27.4	**168**	**37.2**	167	37.4	168	37.2
473.astar	223	31.4	**224**	**31.3**	226	31.0	226	31.1	226	31.1	**226**	**31.1**
483.xalancbmk	**124**	**55.6**	124	55.7	124	55.6	126	54.6	127	54.5	**127**	**54.5**

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Submit Notes

The config file option 'submit' was used.

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 DPx4-SPECCPU Mon Mar 17 11:22:11 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 E5-2650 v2 @ 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
  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
```

Continued on next page

HITACHI

BladeSymphony BS2000 (Intel Xeon E5-2650 v2)

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CPU2006 license: 35	**Test date:** Mar-2014
Test sponsor: HITACHI	**Hardware Availability:** Nov-2013
Tested by: HITACHI	**Software Availability:** Sep-2013

Platform Notes (Continued)

```
     cache size : 20480 KB

  From /proc/meminfo
     MemTotal:       132194352 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 DPx4-SPECCPU 2.6.32-358.23.2.el6.x86_64 #1 SMP Sat Sep 14 05:32:37 EDT
     2013 x86_64 x86_64 x86_64 GNU/Linux

  run-level 3 Mar 17 11:12

  SPEC is set to: /home/cpu2006
     Filesystem     Type    Size  Used Avail Use% Mounted on
     /dev/mapper/vg_dpx4speccpu-lv_home
                    ext4     81G  5.3G   72G   7% /home

  Additional information from dmidecode:
    BIOS American Megatrends Inc. 4.6.5 11/28/2013
    Memory:
     16x None None
     8x Sams M393 16 GB 1866 MHz 1 rank

  (End of data from sysinfo program)
```

General Notes

```
 Environment variables set by runspec before the start of the run:
 KMP_AFFINITY="granularity=fine,scatter"
 LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64:/home/cpu2006/sh"
 OMP_NUM_THREADS = "16"

  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
  runspec command invoked through numactl i.e.:
  numactl --interleave=all runspec <etc>
  BladeSymphony BS2000 and Hitachi Compute Blade 2000 are electronically equivalent.
  The results have been measured on a BladeSymphony BS2000
```

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Base Compiler Invocation

C benchmarks:
        icc -m64

C++ benchmarks:
        icpc -m64

Base Portability Flags

         400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
            401.bzip2: -DSPEC_CPU_LP64
              403.gcc: -DSPEC_CPU_LP64
              429.mcf: -DSPEC_CPU_LP64
           445.gobmk: -DSPEC_CPU_LP64
           456.hmmer: -DSPEC_CPU_LP64
            458.sjeng: -DSPEC_CPU_LP64
       462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
          464.h264ref: -DSPEC_CPU_LP64
          471.omnetpp: -DSPEC_CPU_LP64
             473.astar: -DSPEC_CPU_LP64
        483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
        -xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32

C++ benchmarks:
        -xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -Wl,-z,muldefs
        -L/sh -lsmartheap64

Base Other Flags

C benchmarks:

        403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
        icc -m64

HITACHI

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CPU2006 license: 35

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Tested by: HITACHI

Test date: Mar-2014

Hardware Availability: Nov-2013

Software Availability: Sep-2013

Peak Compiler Invocation (Continued)

    400.perlbench: `icc -m32`

     445.gobmk: `icc -m32`

     464.h264ref: `icc -m32`

C++ benchmarks (except as noted below):
     `icpc -m32`

      473.astar: `icpc -m64`

Peak Portability Flags

    400.perlbench: `-DSPEC_CPU_LINUX_IA32`
      401.bzip2: `-DSPEC_CPU_LP64`
       403.gcc: `-DSPEC_CPU_LP64`
       429.mcf: `-DSPEC_CPU_LP64`
     456.hmmer: `-DSPEC_CPU_LP64`
      458.sjeng: `-DSPEC_CPU_LP64`
   462.libquantum: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX`
      473.astar: `-DSPEC_CPU_LP64`
   483.xalancbmk: `-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) -opt-prefetch`
         `-ansi-alias`

      401.bzip2: `-xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)`
         `-no-prec-div -prof-use(pass 2) -auto-ilp32 -opt-prefetch`
         `-ansi-alias`

       403.gcc: `-xAVX -ipo -O3 -no-prec-div -inline-calloc`
         `-opt-malloc-options=3 -auto-ilp32`

       429.mcf: `basepeak = yes`

     445.gobmk: `-xAVX(pass 2) -prof-gen(pass 1) -prof-use(pass 2)`
         `-ansi-alias`

     456.hmmer: `-xAVX -ipo -O3 -no-prec-div -unroll2 -auto-ilp32`
         `-ansi-alias`

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Peak Optimization Flags (Continued)

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

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)
-opt-ra-region-strategy=block   -ansi-alias
-Wl,-z,muldefs -L/sh -lsmartheap

473.astar: -xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-Wl,-z,muldefs -L/sh -lsmartheap64

483.xalancbmk: -xAVX -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias
-Wl,-z,muldefs -L/sh -lsmartheap

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

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

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