HITACHI
BladeSymphony BS2500 (Intel Xeon E7-8880 v3)

SPECint_rate2006 = 5390
SPECint_rate_base2006 = 5230

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

Hardware
CPU Name: Intel Xeon E7-8880 v3
CPU Characteristics: Intel Turbo Boost Technology up to 3.10 GHz
CPU MHz: 2300
FPU: Integrated
CPU(s) enabled: 144 cores, 8 chips, 18 cores/chip, 2 threads/core
CPU(s) orderable: 1,2,3,4,8 chip
Primary Cache: 32 KB I + 32 KB D on chip per core
Secondary Cache: 256 KB I+D on chip per core
L3 Cache: 45 MB I+D on chip per chip
Other Cache: None
Memory: 2 TB (128 x 16 GB 2Rx4 PC4-2133P-R, running at 1600 MHz)
Disk Subsystem: 2 x 600 GB SAS, 10000 RPM, RAID1
Other Hardware: None

Software
Operating System: Red Hat Enterprise Linux Server release 6.6 (Santiago)
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

Test date: Aug-2015
Hardware Availability: Jun-2015
Software Availability: Oct-2014
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Test date: Aug-2015
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Results Table

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<th>Seconds</th>
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<td>5480</td>
<td>367</td>
<td>5410</td>
</tr>
</tbody>
</table>

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 configuration:
C-State = Disable
C1 Enhanced Mode = Disable
EnergyEfficientTurbo = Disable
ProcessorPerformanceStates = Disable
UncoreFrequencyScaling = Disable
Platform Controlled Type = Maximum Performance
Memory Power Management = Disable
Patrol Scrub = Disable

Sysinfo program /home/speccpu2006/cpu2006/config/sysinfo.rev6818
$Rev: 6818 $ $Date: 2012-07-17 $ e86d102572650a6e4d596a3cee98f191
running on RH6.6 Tue Aug 4 23:09:17 2015

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
Continued on next page
SPEC CINT2006 Result

HITACHI

BladeSymphony BS2500 (Intel Xeon E7-8880 v3)

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

Software Availability: Oct-2014

Platform Notes (Continued)

From /proc/cpuinfo

model name : Intel(R) Xeon(R) CPU E7-8880 v3 @ 2.30GHz
8 "physical id"s (chips)
288 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The
following excerpts from /proc/cpuinfo might not be reliable. Use with
cautions.)
cpu cores : 18
siblings : 36
physical 0: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
physical 1: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
physical 2: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
physical 3: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
physical 4: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
physical 5: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
physical 6: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
physical 7: cores 0 1 2 3 4 8 9 10 11 16 17 18 19 20 24 25 26 27
cache size : 46080 KB

From /proc/meminfo

MemTotal: 2117096220 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

/usr/bin/lsb_release -d
Red Hat Enterprise Linux Server release 6.6 (Santiago)

From /etc/*release*/etc/*version*

redhat-release: Red Hat Enterprise Linux Server release 6.6 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.6 (Santiago)

uname -a:
Linux RHEL6.6 2.6.32-504.el6.x86_64 #1 SMP Tue Sep 16 01:56:35 EDT 2014
x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Aug 4 15:47

SPEC is set to: /home/speccpu2006/cpu2006

Filesystem Type Size Used Avail Use% Mounted on
/dev/dm-0 /dev/mapper/vg_rhel6-lv_home
ext4 4966G 7.6G 463G 2% /home

Additional information from dmidecode:
BIOS HITACHI 09-14 07/09/2015
Memory:
64x NO DIMM Unknown
1x Samsung M39.A2G40DB0-CPB 16 GB 1600 MHz 2 rank
127x Samsung M393A2G40DB0-CPB 16 GB 1600 MHz 2 rank

(End of data from sysinfo program)
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General Notes
Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = */home/speccpu2006/cpu2006/libs/32:/home/speccpu2006/cpu2006/libs/64:/home/speccpu2006/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 BS520X, BladeSymphony BS2500 and Hitachi Compute Blade 520X are electronically equivalent.
The results have been measured on a Hitachi Compute Blade 520X.

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:
  -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
  -opt-mem-layout-trans=3
C++ benchmarks:
  -xCORE-AVX2 -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
### SPEC CINT2006 Result

**HITACHI**

BladeSymphony BS2500 (Intel Xeon E7-8880 v3)

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**CPU2006 license:** 35  
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**Tested by:** HITACHI  
**Test date:** Aug-2015  
**Hardware Availability:** Jun-2015  
**Software Availability:** Oct-2014

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#### Peak Compiler Invocation

C benchmarks (except as noted below):

- `icc -m32`
- `400.perlbench: icc -m64`
- `401.bzip2: icc -m64`
- `458.sjeng: icc -m64`

C++ benchmarks:

- `icpc -m32`

---

#### Peak Portability Flags

```bash
400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX
```

---

#### Peak Optimization Flags

C benchmarks:

```bash
400.perlbench: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)  
-auto-ilp32
401.bzip2: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)  
-opt-prefetch -auto-ilp32 -ansi-alias
403.gcc: basepeak = yes
429.mcf: basepeak = yes
445.gobmk: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)  
-ansi-alias -opt-mem-layout-trans=3
456.hmmer: basepeak = yes
458.sjeng: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)  
-unroll4 -auto-ilp32
```

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Continued on next page
SPEC CINT2006 Result

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Peak Optimization Flags (Continued)

462.libquantum: basepeak = yes

464.h264ref: -xCORE-AVX2(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: -xCORE-AVX2(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

483.xalancbmk: 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/PlatformHitachi-V1.2.20150729.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/PlatformHitachi-V1.2.20150729.xml

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

Tested with SPEC CPU2006 v1.2.
Originally published on 25 August 2015.