HITACHI

BladeSymphony BS2500 (Intel Xeon E7-8890 v3)

<table>
<thead>
<tr>
<th>SPECint®_rate2006 = Not Run</th>
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| SPECint_rate_base2006 = 2740 |

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

Test date: May-2015
Hardware Availability: Jun-2015
Software Availability: Oct-2014

| SPECint_rate_base2006 = 2740 |

**HITACHI**

**CPU Name:** Intel Xeon E7-8890 v3
**CPU Characteristics:** Intel Turbo Boost Technology up to 3.30 GHz
**CPU MHz:** 2500
**FPU:** Integrated
**CPU(s) enabled:** 72 cores, 4 chips, 18 cores/chip, 2 threads/core
**CPU(s) orderable:** 1,2,3,4 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:** 1 TB (64 x 16 GB 2Rx4 PC4-2133P-R, running at 1600 MHz)
**Disk Subsystem:** 2 x 300 GB SAS, 15000 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 5
**Base Pointers:** 32-bit
**Peak Pointers:** 32/64-bit
**Other Software:** Microquill SmartHeap V10.0
**SPEC CINT2006 Result**

**HITACHI**

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### Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
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</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>144</td>
<td>600</td>
<td>2340</td>
<td>598</td>
<td>2350</td>
<td>599</td>
<td>2350</td>
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<tr>
<td>401.bzip2</td>
<td>144</td>
<td>1006</td>
<td>1380</td>
<td>1006</td>
<td>1380</td>
<td>1006</td>
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<td>403.gcc</td>
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<td>594</td>
<td>1950</td>
<td>585</td>
<td>1980</td>
<td>592</td>
<td>1960</td>
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<td>429.mcf</td>
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<td>389</td>
<td>3380</td>
<td>391</td>
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<td>445.gobmk</td>
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<td>790</td>
<td>1910</td>
<td>790</td>
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<td>456.hmmer</td>
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<td>4170</td>
<td>323</td>
<td>4160</td>
<td>327</td>
<td>4110</td>
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<tr>
<td>458.sjeng</td>
<td>144</td>
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<td>2210</td>
<td>785</td>
<td>2220</td>
<td>786</td>
<td>2220</td>
</tr>
<tr>
<td>462.libquantum</td>
<td>144</td>
<td>111</td>
<td>26900</td>
<td>111</td>
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<td>111</td>
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<tr>
<td>464.h264ref</td>
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<td>3290</td>
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<td>3250</td>
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<tr>
<td>471.omnetpp</td>
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<td>1250</td>
<td>726</td>
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<td>473.astar</td>
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<tr>
<td>483.xalancbmk</td>
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<td>347</td>
<td>2870</td>
<td>347</td>
<td>2870</td>
<td>347</td>
<td>2860</td>
</tr>
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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
- Active Energy Manager = Capping Disabled
- Platform Controlled Type = Maximum Performance
- Memory Power Management = Disable
- Patrol Scrub = Disable

Sysinfo program /home/cpu2006/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on localhost Wed May 13 17:11:30 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

From /proc/cpuinfo

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SPEC CINT2006 Result

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CPU2006 license: 35
Test sponsor: HITACHI
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Platform Notes (Continued)

model name : Intel(R) Xeon(R) CPU E7-8890 v3 @ 2.50GHz
4 "physical id"s (chips)
144 "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
cache size : 46080 KB

From /proc/meminfo
MemTotal:       1058391176 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 localhost 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 5 May 13 16:10

SPEC is set to: /home/cpu2006
filesystem  Type  Size  Used  Avail  Use%  Mounted on
/dev/mapper/vg_rhel6-lv_home
ext4  221G  4.9G  205G  3%  /home

Additional information from dmidecode:
BIOS HITACHI 09-07 04/28/2015
Memory:
32x NO DIMM Unknown
64x Samsung M393A2G40DB0-CPB 16 GB 1600 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"

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**General Notes (Continued)**

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.:
umactl --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```
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The flags files that were used to format this result can be browsed at:
- [http://www.spec.org/cpu2006/flags/PlatformHitachi-V1.2.20150602.html](http://www.spec.org/cpu2006/flags/PlatformHitachi-V1.2.20150602.html)

You can also download the XML flags sources by saving the following links:
- [http://www.spec.org/cpu2006/flags/PlatformHitachi-V1.2.20150602.xml](http://www.spec.org/cpu2006/flags/PlatformHitachi-V1.2.20150602.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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