Huawei RH5885 V3 (Intel Xeon E7-4850 v3)

SPEClnt_rate2006 = 1760
SPEClnt_rate_base2006 = 1700

CPU2006 license: 3175
Test sponsor: Huawei
Tested by: Huawei

Operating System: SUSE Linux Enterprise Server 12 (x86_64) 3.12.28-4-default
Compiler: C/C++: Version 15.0.0.090 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
## Results Table

### Benchmark | Copies | Seconds | Ratio | Seconds | Ratio | Copies | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio
--- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | ---
400.perlbench | 112 | 720 | 1520 | 732 | 1490 | 732 | 1520 | 732 | 1520 | 732 | 1520 | 732 | 1520
401.bzip2 | 112 | 1189 | 909 | 1193 | 906 | 1190 | 908 | 1190 | 908 | 1190 | 908 | 1190 | 908
403.gcc | 112 | 503 | 2030 | 504 | 2030 | 508 | 2010 | 508 | 2010 | 508 | 2010 | 508 | 2010
445.gobmk | 112 | 826 | 1420 | 828 | 1420 | 827 | 1420 | 827 | 1420 | 827 | 1420 | 827 | 1420
456.hmmer | 112 | 453 | 2410 | 453 | 2410 | 439 | 2380 | 439 | 2380 | 439 | 2380 | 439 | 2380
458.sjeng | 112 | 901 | 1500 | 901 | 1500 | 907 | 1490 | 907 | 1490 | 907 | 1490 | 907 | 1490
462.libquantum | 112 | 120900 | 180 | 120900 | 180 | 120900 | 180 | 120900 | 180 | 120900 | 180 | 120900 | 180 | 120900
464.h264ref | 112 | 1035 | 2390 | 1024 | 2420 | 1022 | 2430 | 1022 | 2430 | 1022 | 2430 | 1022 | 2430
471.omnetpp | 112 | 964 | 726 | 972 | 720 | 968 | 723 | 968 | 723 | 968 | 723 | 968 | 723
473.astar | 112 | 864 | 910 | 865 | 909 | 866 | 908 | 866 | 908 | 866 | 908 | 866 | 908
483.xalancbmk | 112 | 501 | 1540 | 503 | 1540 | 503 | 1540 | 503 | 1540 | 503 | 1540 | 503 | 1540

### 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:**
  - Set Power Efficiency Mode to Performance
  - Set Lock_step to disabled
  - Baseboard Management Controller used to adjust the fan speed to 100%
  - Set Memory Power Saving to disabled
  - Sysinfo program /zn/spec1/config/sysinfo.rev6914
  - Rev: 6914 $ $Date:: 2014-06-25 $ $e3ffbb8667b5a285932ceab81e28219e1

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 E7-4850 v3 @ 2.20GHz
- 4 "physical id"s (chips)
- 112 "processors"

Continued on next page
Platform Notes (Continued)

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 : 14
siblings : 28
physical 0: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
physical 1: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
physical 2: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14
physical 3: cores 0 1 2 3 4 5 6 8 9 10 11 12 13 14

cache size : 35840 KB

From /proc/meminfo
MemTotal:       529110512 kB
HugePages_Total:       0
Hugepagesize:       2048 kB

From /etc/*release* /etc/*version*
SuSE-release:
SUSE Linux Enterprise Server 12 (x86_64)
VERSION = 12
PATCHLEVEL = 0
# This file is deprecated and will be removed in a future service pack or
release.
# Please check /etc/os-release for details about this release.
os-release:
NAME="SLES"
VERSION="12"
VERSION_ID="12"
PRETTY_NAME="SUSE Linux Enterprise Server 12"
ID="sles"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:12"

uname -a:
Linux RH5885V3 3.12.28-4-default #1 SMP Thu Sep 25 17:02:34 UTC 2014
(9879bd4) x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Oct 19 19:39

SPEC is set to: /zsn/spec1

Filesystem     Type  Size  Used Avail Use% Mounted on
/dev/sdb1      ext4  823G  6.9G  774G   1% /zsn

Additional information from dmidecode:

Warning: Use caution when you interpret this section. The 'dmidecode' program
reads system data which is "intended to allow hardware to be accurately
determined", but the intent may not be met, as there are frequent changes to
hardware, firmware, and the "DMTF SMBIOS" standard.

BIOS American Megatrends Inc. BLISQ954 09/19/2015
Memory:
32x Micron 36ASF2G72PZ-2G1A2 16 GB 2 rank 2133 MHz, configured at 1333 MHz
Continued on next page
Huawei
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Tested by: Huawei
Software Availability: Oct-2014

Platform Notes (Continued)

16x NO DIMM NO DIMM

(End of data from sysinfo program)
Regarding the sysinfo display about the memory installed, the correct amount of
memory is 512 GB and the dmidecode description should have two lines reading as:
32x Micron 36ASF2G72PZ-2G1A2 16 GB 2 rank 2133 MHz, configured at 1333 MHz
16x NO DIMM NO DIMM

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/zsn/spec1/libs/32:/zsn/spec1/libs/64:/zsn/spec1/sh"

Binaries compiled on a system with 1x Core i5-4670K CPU + 16GB
memory using RedHat EL 7.0
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/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>

Base Compiler Invocation

C benchmarks:
icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32

C++ benchmarks:
icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32

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
### SPEC CINT2006 Result

**Huawei**

**Huawei RH5885 V3 (Intel Xeon E7-4850 v3)**

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**CPU2006 license:** 3175  
**Test date:** Oct-2015  
**Test sponsor:** Huawei  
**Hardware Availability:** May-2015  
**Tested by:** Huawei  
**Software Availability:** Oct-2014

### Base Other Flags

C benchmarks:

- 403.gcc: `-Dalloca=_alloca`

### Peak Compiler Invocation

C benchmarks (except as noted below):

- `icc -m32 -L/opt/intel/composer_xe_2015/lib/ia32`
- 400.perlbench: `icc -m64`
- 401.bzip2: `icc -m64`
- 456.hmmer: `icc -m64`
- 458.sjeng: `icc -m64`

C++ benchmarks:

- `icpc -m32 -L/opt/intel/composer_xe_2015/lib/ia32`

### 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: `-xCORE-AVX2(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: `-xCORE-AVX2(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: `-xCORE-AVX2 -ipo -O3 -no-prec-div`
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Peak Optimization Flags (Continued)

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: -xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
458.sjeng: -xCORE-AVX2(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: basepeak = yes

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/Intel-ic15.0-official-linux64.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic15.0-official-linux64.xml
http://www.spec.org/cpu2006/flags/Huawei-Platform-Settings-V1.2-HSW-RevG.xml
## Huawei

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