Fujitsu
PRIMERGY RX2530 M4, Intel Xeon Gold 6126, 2.60GHz

SPEClnt®_rate2006 =  Not Run
SPEClnt_rate_base2006 = 1310

CPU2006 license: 19
Test sponsor: Fujitsu
Tested by: Fujitsu

Test date: Aug-2017
Hardware Availability: Jul-2017
Software Availability: Apr-2017

400.perlbench  48
401.bzip2  48
403.gcc  48
429.mcf  48
445.gobmk  48
456.hmmer  48
458.sjeng  48
462.libquantum  48
464.h264ref  48
471.omnetpp  48
473.astar  48
483.xalancbmk  48

Hardware
CPU Name: Intel Xeon Gold 6126
CPU Characteristics: Intel Turbo Boost Technology up to 3.70 GHz
CPU MHz: 2600
FPU: Integrated
CPU(s) enabled: 24 cores, 12 chips, 2 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: 1 MB I+D on chip per core
L3 Cache: 19.25 MB I+D on chip per chip
Other Cache: None
Memory: 384 GB (24 x 16 GB 2Rx4 PC4-2666V-R)
Disk Subsystem: 752 GB tmpfs
Other Hardware: None

Software
Operating System: SUSE Linux Enterprise Server 12 SP2 4.4.21-69-default
Compiler: C/C++: Version 17.0.3.191 of Intel C/C++ Compiler for Linux
Auto Parallel: No
File System: tmpfs
System State: Run level 3 (multi-user)
Base Pointers: 32-bit
Peak Pointers: Not Applicable
Other Software: Microquill SmartHeap V10.2
SPEC CINT2006 Result

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Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Base</th>
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<th>Ratio</th>
<th>Seconds</th>
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<th>Seconds</th>
<th>Ratio</th>
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<td>464.h264ref</td>
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<td>1600</td>
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<td>206</td>
<td>1610</td>
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</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"
Kernel Boot Parameter set with : nohz_full=1-47
Turbo mode set with :
cpupower -c all frequency-set -g performance
Tmpfs filesystem can be set with:
mkdir /home/memory
mount -t tmpfs -o size=752g,rw tmpfs /home/memory
Process tuning setting:
echo 10000000 > /proc/sys/kernel/sched_min_granularity_ns
echo 15000000 > /proc/sys/kernel/sched_wakeup_granularity_ns
echo 0 > /proc/sys/kernel/numa_balancing
cpu idle state set with:
cpupower idle-set -d 1
cpupower idle-set -d 2

Platform Notes

BIOS configuration:
Link Frequency Select = 10.4 GT/s
HWPM Support = Disabled
Intel Virtualization Technology = Disabled

Continued on next page
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Platform Notes (Continued)

Sub NUMA Clustering = Enabled
IMC Interleaving = 1-way
LLC Dead Line Alloc = Disabled
Stale AtoS = Enabled
Sysinfo program /home/memory/SPECcpu/config/sysinfo.rev6993
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1)
runtime on linux-vv4c Mon Aug 14 18:27:03 2017

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) Gold 6126 CPU @ 2.60GHz
  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
  physical 0: cores 0 2 3 4 5 8 9 10 11 12 13 14
  physical 1: cores 0 1 3 4 5 6 8 9 10 11 12 13
  cache size : 19712 KB

From /proc/meminfo
MemTotal: 394412256 kB
HugePages_Total: 0
Hugepagesize: 2048 kB

/usr/bin/lsb_release -d
SUSE Linux Enterprise Server 12 SP2

From /etc/*release* /etc/*version*
SuSE-release:
  NAME="SLES"
  VERSION="12-SP2"
  VERSION_ID="12.2"
  PRETTY_NAME="SUSE Linux Enterprise Server 12 SP2"
  ID="sles"
  ANSI_COLOR="0;32"
  CPE_NAME="cpe:/o:suse:sles:12:sp2"

uname -a:
Linux linux-vv4c 4.4.21-69-default #1 SMP Tue Oct 25 10:58:20 UTC 2016
Continued on next page
spec

SPEC CINT2006 Result

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Platorm Notes (Continued)

(9464f67) x86_64 x86_64 x86_64 GNU/Linux
run-level 3 Aug 14 17:32
SPEC is set to: /home/memory/SPECcpu
Filesystem     Type   Size  Used Avail Use% Mounted on
tmpfs            tmpfs  752G  4.6G  748G   1% /home/memory
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 FUJITSU // American Megatrends Inc. V5.0.0.12 R1.4.1 for D3383-A1x
06/19/2017
Memory: 24x Samsung M393A2G40EB2-CTD 16 GB 2 rank 2666 MHz

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/home/memory/SPECcpu/lib/ia32:/home/memory/SPECcpu/lib/intel64:/home/memory/SPECcpu/sh10.2"

Binaries compiled on a system with 1x Intel Core i7-4790 CPU + 32GB RAM memory using Redhat Enterprise Linux 7.2
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/transparent_hugepage/enabled
Filesystem page cache cleared with:
shell invocation of 'sync; echo 3 > /proc/sys/vm/drop_caches' prior to run
runcspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>

Base Compiler Invocation

C benchmarks:
icc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32
C++ benchmarks:
icpc -m32 -L/opt/intel/compilers_and_libraries_2017/linux/lib/ia32

Base Portability Flags

400.perlbench: -D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX_IA32

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## Fujitsu

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### Base Portability Flags (Continued)

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### Base Optimization Flags

C benchmarks:

- `-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch`
- `-qopt-mem-layout-trans=3`

C++ benchmarks:

- `-xCORE-AVX512 -ipo -O3 -no-prec-div -qopt-prefetch`
- `-qopt-mem-layout-trans=3 -Wl,-z,muldefs -L/sh10.2 -lsmartheap`

### Base Other Flags

C benchmarks:

- `403.gcc: -Dalloca=_alloca`

---

The flags files that were used to format this result can be browsed at:


You can also download the XML flags sources by saving the following links:

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