Fujitsu PRIMERGY RX2530 M4, Intel Xeon Gold 6144, 3.50GHz

SPECint®_rate2006 = Not Run
SPECint_rate_base2006 = 1120

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

CINT2006 Result

Hardware
CPU Name: Intel Xeon Gold 6144
CPU Characteristics: Intel Turbo Boost Technology up to 4.20 GHz
CPU MHz: 3500
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: 1 MB I+D on chip per core
L3 Cache: 24.75 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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Software Availability: Apr-2017

Results Table

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<th>Benchmark</th>
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<th>Seconds</th>
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<tr>
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<td>471.omnetpp</td>
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<td>1420</td>
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<td>1430</td>
<td>155</td>
<td>1430</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"
Kernel Boot Parameter set with : nohz_full=1-31
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
**SPEC CINT2006 Result**

**Fujitsu**

PRIMERGY RX2530 M4, Intel Xeon Gold 6144, 3.50GHz

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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/specgpu/config/sysinfo.rev6993  
Revision 6993 of 2015-11-06 (b5e8d4b4eb51ed28d7f98696cbe290c1) running on linux-zz9i Fri Jul 14 14:00:13 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 6144 CPU @ 3.50GHz  
- 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 1 2 3 4 8 18 24 27  
- physical 1: cores 0 4 5 6 16 19 20 22  
- cache size : 25344 KB

From `/proc/meminfo`

- MemTotal: 394407104 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:
  - SUSE Linux Enterprise Server 12 (x86_64)  
  - VERSION = 12  
  - PATCHLEVEL = 2  
  - # 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-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:


Continued on next page
Fujitsu
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Platform Notes (Continued)

(9464f67) x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Jul 14 09:43

SPEC is set to: /home/memory/speccpu
Filesystem Type Size Used Avail Use% Mounted on
tmpfs tmpfs 752G 4.1G 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 Hynix HMA42GR7BJR4N-VK 16 GB 2 rank 2666 MHz

(End of data from sysinfo program)

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:
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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### Base Optimization Flags

**C benchmarks:**

- `-xCORE-AVX2`  
- `-ipo`  
- `-O3`  
- `-no-prec-div`  
- `-qopt-prefetch`  
- `-qopt-mem-layout-trans=3`  

**C++ benchmarks:**

- `-xCORE-AVX2`  
- `-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:

## Fujitsu

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