Fujitsu PRIMERGY CX2570 M1, Intel Xeon E5-2697 v3, 2.6 GHz

SPECint®_rate2006 = 1240
SPECint_rate_base2006 = 1200

Hardware
CPU Name: Intel Xeon E5-2697 v3
CPU Characteristics: Intel Turbo Boost Technology up to 3.60 GHz
CPU MHz: 2600
FPU: Integrated
CPU(s) enabled: 28 cores, 2 chips, 14 cores/chip, 2 threads/core
CPU(s) orderable: 1.2 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: 35 MB I+D on chip per chip
Other Cache: None
Memory: 256 GB (16 x 16 GB 2Rx4 PC4-2133P-R)
Disk Subsystem: 1 x SATA, 500 GB, 7200 RPM
Other Hardware: None

Software
Operating System: Red Hat Enterprise Linux Server release 6.5 (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 sponsor: Fujitsu
Test date: Nov-2014
Hardware Availability: Sep-2014
Software Availability: Nov-2013

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

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COPIES SPECint_rate2006 = 1240
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SPEC CINT2006 Result

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### Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
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<th>Ratio</th>
<th>Seconds Peak</th>
<th>Ratio</th>
<th>Seconds</th>
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<td>1230</td>
<td>315</td>
<td>1230</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:**
  - Energy Performance = Performance
  - Utilization Profile = Unbalanced
  - QPI snoop mode: Cluster on Die
  - COD Enable = Enabled, Early Snoop = Disabled
  - CPU C1E Support = Disabled

### General Notes

Environment variables set by runspec before the start of the run:

```
LD_LIBRARY_PATH = "/home/SPECcpu2006/libs/32:/home/SPECcpu2006/libs/64:/home/SPECcpu2006/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
```

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### SPEC CINT2006 Result

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#### General Notes (Continued)

Filesystem page cache cleared with:

```bash
echo 1> /proc/sys/vm/drop_caches
```

runspec command invoked through numactl i.e.:

```bash
numactl --interleave=all runspec <etc>
```

This result was measured on the PRIMERGY CX2550 M1. The PRIMERGY CX2550 M1 and the PRIMERGY CX2570 M1 are electronically equivalent.

For information about Fujitsu please visit: [http://www.fujitsu.com](http://www.fujitsu.com)

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#### Base Compiler Invocation

**C benchmarks:**

```
icc -m32
```

**C++ benchmarks:**

```
icc -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
```

---
Peak Compiler Invocation

C benchmarks (except as noted below):

```latex
icc -m32
```

```latex
400.perlbench: icc -m64
```

```latex
401.bzip2: icc -m64
```

```latex
456.hmmer: icc -m64
```

```latex
458.sjeng: icc -m64
```

C++ benchmarks:

```latex
icpc -m32
```

Peak Portability Flags

```latex
400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
```

```latex
401.bzip2: -DSPEC_CPU_LP64
```

```latex
456.hmmer: -DSPEC_CPU_LP64
```

```latex
458.sjeng: -DSPEC_CPU_LP64
```

```latex
462.libquantum: -DSPEC_CPU_LINUX
```

```latex
483.xalancbmk: -DSPEC_CPU_LINUX
```

Peak Optimization Flags

C benchmarks:

```latex
400.perlbench: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
```

```latex
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
```

```latex
-auto-ilp32
```

```latex
401.bzip2: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
```

```latex
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
```

```latex
-opt-prefetch -auto-ilp32 -ansi-alias
```

```latex
403.gcc: basepeak = yes
```

```latex
429.mcf: basepeak = yes
```

```latex
445.gobmk: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
```

```latex
-ansi-alias -opt-mem-layout-trans=3
```

```latex
456.hmmer: -xCORE-AVX2 -ipo -03 -no-prec-div -unroll2 -auto-ilp32
```

```latex
458.sjeng: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
```

```latex
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
```

```latex
-unroll4 -auto-ilp32
```

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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)
-unnroll2 -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

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64-revB.xml
http://www.spec.org/cpu2006/flags/Fujitsu-Platform-Settings-V1.2-HSW-RevA.xml

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For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.2.
Originally published on 10 February 2015.