**Fujitsu**

PRIMERGY RX2520 M1, Intel Xeon E5-2440 v2, 1.90 GHz

<table>
<thead>
<tr>
<th>SPECint®2006</th>
<th>40.9</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECint_base2006</td>
<td>38.3</td>
</tr>
</tbody>
</table>

**CPU2006 license**: 19  
**Test date**: Jan-2014  
**Test sponsor**: Fujitsu  
**Hardware Availability**: Feb-2014  
**Tested by**: Fujitsu  
**Software Availability**: Sep-2013

**CPU Name**: Intel Xeon E5-2440 v2  
**CPU Characteristics**: Intel Turbo Boost Technology up to 2.40 GHz  
**CPU MHz**: 1900  
**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**: 256 KB I+D on chip per core  
**L3 Cache**: 20 MB I+D on chip per chip  
**Other Cache**: None  
**Memory**: 192 GB (12 x 16 GB 2Rx4 PC3L-12800R-11, ECC)  
**Disk Subsystem**: 1 x SATA, 500 GB, 7200 RPM  
**Other Hardware**: None

**Operating System**: Red Hat Enterprise Linux Server release 6.4 (Santiago)  
**Compiler**: C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux  
**Auto Parallel**: Yes  
**File System**: ext4  
**System State**: Run level 5 (multi-user)  
**Base Pointers**: 32/64-bit  
**Peak Pointers**: 32/64-bit  
**Other Software**: Microquill SmartHeap V10.0
SPEC CINT2006 Result

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Results Table

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<tr>
<th>Benchmark</th>
<th>Seconds</th>
<th>Ratio</th>
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<td>22.7</td>
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<td>445.gobmk</td>
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<td>456.hmmer</td>
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<td>458.sjeng</td>
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<td>462.libquantum</td>
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<td>483.xalancbmk</td>
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<td>40.6</td>
<td>170</td>
<td>40.5</td>
</tr>
</tbody>
</table>

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Submit Notes

The config file option 'submit' was used.

Operating System Notes

Stack size set to unlimited using "ulimit –s unlimited"

Platform Notes

BIOS configuration:
Energy Performance = Performance
Utilization Profile = Unbalanced

General Notes

Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,compact,1,0"
LD_LIBRARY_PATH = "/SPECcpu2006/libs/32:/SPECcpu2006/libs/64:/SPECcpu2006/sh"
OMP_NUM_THREADS = "16"

Binaries compiled on a system with 1x Core i7-860CPU + 8GB memory using RedHat EL 6.4
Transparent Huge Pages enabled with:
echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled

For information about Fujitsu please visit: http://www.fujitsu.com
**SPEC CINT2006 Result**

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| SPECint2006 | 40.9 |
| SPECint_base2006 | 38.3 |

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### Base Compiler Invocation

- C benchmarks: `icc -m64`
- C++ benchmarks: `icpc -m64`

### Base Portability Flags

- 400.perlbench: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64`
- 401.bzip2: `-DSPEC_CPU_LP64`
- 403.gcc: `-DSPEC_CPU_LP64`
- 429.mcf: `-DSPEC_CPU_LP64`
- 445.gobmk: `-DSPEC_CPU_LP64`
- 456.hmmer: `-DSPEC_CPU_LP64`
- 458.sjeng: `-DSPEC_CPU_LP64`
- 462.libquantum: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX`
- 464.h264ref: `-DSPEC_CPU_LP64`
- 471.omnetpp: `-DSPEC_CPU_LP64`
- 473.astar: `-DSPEC_CPU_LP64`
- 483.xalancbmk: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX`

### Base Optimization Flags

- C benchmarks: `-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32`
- C++ benchmarks: `-xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -Wl,-z,muldefs -L/sh -lsmartheap64`

### Base Other Flags

- C benchmarks: `403.gcc: -Dalloca=_alloca`

### Peak Compiler Invocation

- C benchmarks (except as noted below): `icc -m64`
**SPEC CINT2006 Result**

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**Peak Compiler Invocation (Continued)**

400.perlbench: icc -m32
445.gobmk: icc -m32
464.h264ref: icc -m32

C++ benchmarks (except as noted below):
icpc -m64
471.omnetpp: icpc -m32

**Peak Portability Flags**

400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

**Peak Optimization Flags**

C benchmarks:

400.perlbench: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -opt-prefetch
-ansi-alias
401.bzip2: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div -prof-use(pass 2) -auto-ilp32 -opt-prefetch
-ansi-alias
403.gcc: -xAVX -ipo -O3 -no-prec-div -inline-calloc
-opt-malloc-options=3 -auto-ilp32
429.mcf: basepeak = yes
445.gobmk: -xAVX(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias
456.hmmer: basepeak = yes

Continued on next page
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Peak Optimization Flags (Continued)

458.sjeng: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -unroll14

462.libquantum: basepeak = yes

464.h264ref: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2) -unroll12
-ansi-alias

C++ benchmarks:

471.omnetpp: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
-no-prec-div(pass 2) -prof-use(pass 2)
-opt-ra-region-strategy=block
-ansi-alias
-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-ic14.0-official-linux64.20140128.html
http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20131009.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml
http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20131009.xml

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

Tested with SPEC CPU2006 v1.2.
Originally published on 11 March 2014.