Dell Inc.

PowerEdge R620 (Intel Xeon E5-2650L, 1.80 GHz)

SPECint\_rate2006 = 459
SPECint\_rate\_base2006 = 439

CPU2006 license: 55
Test sponsor: Dell Inc.
Tested by: Dell Inc.

CPU Name: Intel Xeon E5-2650L
CPU Characteristics: Intel Turbo Boost Technology up to 2.30 GHz
CPU MHz: 1800
FPU: Integrated
CPU(s) enabled: 16 cores, 2 chips, 8 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: 20 MB I+D on chip per chip
Other Cache: None
Memory: 128 GB (16 x 8 GB 2Rx4 PC3-12800R-11, ECC)
Disk Subsystem: 2 x 146 GB 15000 RPM SAS, RAID 0
Other Hardware: None

Hardware

Operating System: SUSE Linux Enterprise Server 11 SP2 (x86_64)
Compiler: C/C++ Version 12.1.0.225 of Intel C++ Studio XE for Linux
Auto Parallel: No
File System: ext3
System State: Run level 3 (multi-user)
Base Pointers: 32-bit
Peak Pointers: 32/64-bit
Other Software: Microquill SmartHeap V9.01
Software
Dell Inc.

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**SPECint_rate2006 = 459**

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<th>Ratio</th>
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<td>456.hmmer</td>
<td>32</td>
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<td>32</td>
<td>1233</td>
<td>314</td>
<td>1225</td>
<td>316</td>
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<td>32</td>
<td>260</td>
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<td>472</td>
<td>465</td>
<td>474</td>
<td>467</td>
<td>473</td>
</tr>
</tbody>
</table>

**Operating System Notes**

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

**Platform Notes**

System Profile set to Custom
CPU Power Management set to Maximum Performance
Memory Frequency set to Maximum Performance
Turbo Boost set to Enabled
C States/C1E set to Enabled
Sysinfo program /root/CPU2006-1.2/config/sysinfo.rev6800
$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3
running on unsvr Thu Feb 23 16:07:30 2012

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 E5-2650L 0 @ 1.80GHz
  2 "physical id"s (chips)
    32 "processors"

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.
Dell Inc.  
PowerEdge R620 (Intel Xeon E5-2650L, 1.80 GHz)  

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CPU2006 license: 55  
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Software Availability: Feb-2012  
Hardware Availability: Mar-2012  
Test date: Feb-2012  

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 : 8  
siblings : 16  
physical 0: cores 0 1 2 3 4 5 6 7  
physical 1: cores 0 1 2 3 4 5 6 7  
cache size : 20480 KB

From /proc/meminfo

MemTotal: 132089860 kB  
HugePages_Total: 0  
Hugepagesize: 2048 kB

From /proc/meminfo

/proc/meminfo

MemTotal: 132089860 kB  
HugePages_Total: 0  
Hugepagesize: 2048 kB

/usr/bin/lsb_release -d

SUSE Linux Enterprise Server 11 (x86_64)

From /etc/*release* /etc/*version*

SuSE-release:

SUSE Linux Enterprise Server 11 (x86_64)

VERSION = 11  
PATCHLEVEL = 2

uname -a:

Linux unsvr 3.0.13-0.19-default #1 SMP Fri Feb 3 15:38:23 UTC 2012 (7f256ae)

x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Feb 23 15:31 last=S

SPEC is set to: /root/CPU2006-1.2

Filesystem Type Size Used Avail Use% Mounted on
/dev/sda1 ext3 265G 11G 240G 5% /

Additional information from dmidecode:

(End of data from sysinfo program)

General Notes

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

LD_LIBRARY_PATH = "/root/CPU2006-1.2/libs/32;/root/CPU2006-1.2/libs/64"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RHEL5.5

The Dell PowerEdge R620 and the Bull NovaScale R440 F3 models are electronically equivalent.

The results have been measured on a Dell PowerEdge R620 model

Filesystem page cache cleared with:

echo 1 > /proc/sys/vm/drop_caches

runcspec command invoked through numactl i.e.:

numactl --interleave=all runspec <etc>
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Base Compiler Invocation

C benchmarks:
icc -m32

C++ benchmarks:
icpc -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:
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3

C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3
-Wl,-z,muldefs -L/smartheap -lsmartheap

Base Other Flags

C benchmarks:
403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
icc -m32

400.perlbench: icc -m64
401.bzip2: icc -m64
456.hmmer: icc -m64
458.sjeng: icc -m64

C++ benchmarks:
icpc -m32
SPEC CINT2006 Result

Dell Inc.

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Peak Portatility 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: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-auto-ilp32

401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-opt-prefetch -auto-ilp32 -ansi-alias

403.gcc: basepeak = yes
429.mcf: basepeak = yes
445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
-ansi-alias -opt-mem-layout-trans=3

456.hmmer: -xSSE4.2 -ipo -03 -no-prec-div -unroll2 -auto-ilp32

458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-unroll4 -auto-ilp32

462.libquantum: basepeak = yes

464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs
-L/smartheap -lsmartheap

473.astar: basepeak = yes

Continued on next page
## SPEC CINT2006 Result

### Dell Inc.

PowerEdge R620 (Intel Xeon E5-2650L, 1.80 GHz)

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**Software Availability:** Feb-2012

### Peak Optimization Flags (Continued)

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-ic12.1-official-linux64.20111122.html


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

http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml

http://www.spec.org/cpu2006/flags/Dell-Platform-Settings-V1.2-revA.20120328.xml

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For questions about this result, please contact the tester.  
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.2.
Originally published on 27 March 2012.