Dell Inc.  
PowerEdge R720 (Intel Xeon E5-2637, 3.00 GHz)  

SPECint®2006 = 45.5  
SPECint_base2006 = 43.1

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

Test date: Mar-2012  
Hardware Availability: Mar-2012  
Software Availability: Feb-2012

CPU Name: Intel Xeon E5-2637  
CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz  
CPU MHz: 3000  
FPU: Integrated  
CPU(s) enabled: 4 cores, 2 chips, 2 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: 5 MB I+D on chip per chip  
Other Cache: None  
Memory: 128 GB (16 x 8 GB 2Rx4 PC3-12800R-11, ECC)  
Disk Subsystem: 1 x 146 GB 15000 RPM SAS  
Other Hardware: None

Software

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: Yes  
File System: ext3  
System State: Run level 3 (multi-user)  
Base Pointers: 32/64-bit  
Peak Pointers: 32/64-bit  
Other Software: Microquill SmartHeap V9.01

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Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
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<td>28.7</td>
<td>345</td>
<td>28.3</td>
<td>279</td>
<td>35.0</td>
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<td>22.0</td>
<td>440</td>
<td>21.9</td>
<td>437</td>
<td>22.1</td>
<td>429</td>
<td>22.5</td>
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<td>57.0</td>
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<tr>
<td>464.h264ref</td>
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<td>50.3</td>
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<td>50.1</td>
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<td>471.omnetpp</td>
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<td>483.xalancbmk</td>
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<td>43.1</td>
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<td>43.3</td>
<td>158</td>
<td>43.6</td>
<td>144</td>
<td>47.8</td>
</tr>
</tbody>
</table>

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

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
Turbo Boost set to Enabled
Memory Frequency set to Maximum Performance
C States/C1E set to Enabled
Sysinfo program /root/cpu2006-1.2/config/sysinfo.rev6800
$Rev: 6800 $ $Date:: 2011-10-11 $ 6f2ebdfe5032aa42e4583f96b07f99d3
running on R720-Latency1 Tue Mar 27 14:13:21 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 E5-2637 0 @ 3.00GHz
  2 "physical id"s (chips)
  8 "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 : 2
siblings : 4
physical 0: cores 0 1
SPEC CINT2006 Result

Dell Inc.

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Platform Notes (Continued)

    physical 1: cores 0 1
    cache size : 5120 KB

From /proc/meminfo
    MemTotal: 132122700 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 R720-Latency1 3.0.13-0.27-default #1 SMP Wed Feb 15 13:33:49 UTC 2012
        (d73692b) x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Mar 27 12:35 last=S

S specification is set to: /root/cpu2006-1.2

    Filesystem Type Size Used Avail Use% Mounted on
    /dev/sda1 ext3 128G 7.5G 115G 7% /

Additional information from dmidecode:
    (End of data from sysinfo program)

General Notes

Environment variables set by runspec before the start of the run:
    KMP_AFFINITY = "granularity=fine,scatter"
    LD_LIBRARY_PATH = "/root/cpu2006-1.2/libs/32:/root/cpu2006-1.2/libs/64"
    OMP_NUM_THREADS = "4"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RHEL5.5
Transparent Huge Pages enabled with:
    echo always > /sys/kernel/mm/transparent_hugepage/enabled
Filesystem page cache cleared with:
    echo 1 > /proc/sys/vm/drop_caches
The Dell PowerEdge R720 and the Bull NovaScale R460 F3 models are electronically equivalent.
The results have been measured on a Dell PowerEdge R720 model.
Dell Inc.
PowerEdge R720 (Intel Xeon E5-2637, 3.00 GHz)

SPECint2006 = 45.5
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**Base Compiler Invocation**

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

**Base Portability Flags**

- C benchmarks: `-DSPEC_CPU_LP64`
- C++ benchmarks: `-DSPEC_CPU_LP64`

**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/smartheap -lsmartheap64`

**Base Other Flags**

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

**Peak Compiler Invocation**

- C benchmarks (except as noted below): `icc -m64`

Test sponsor: Dell Inc.
Test date: Mar-2012
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Continued on next page
Dell Inc.

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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 -m32
473.astar: icpc -m64

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_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: -xAVX -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
-ansi-alias
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Peak Optimization Flags (Continued)

458.sjeng: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) 
-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) 
-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) 
-prec-div(pass 2) -prof-use(pass 2) 
-opt-ra-region-strategy=block 
-ansi.alias 
-Wl,-z,muldefs -L/smartheap -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: -xAVX -ipo -O3 -prec-div -opt-prefetch -ansi.alias 
-Wl,-z,muldefs -L/smartheap -lsmartheap

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
http://www.spec.org/cpu2006/flags/Dell-Platform-Settings-V1.2-revA.20120410.00.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.20120410.00.xml

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

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