Dell Inc.
PowerEdge M520 (Intel Xeon E5-2403, 1.80 GHz)

SPECint_rate2006 = 174
SPECint_rate_base2006 = 166

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

CPU Name: Intel Xeon E5-2403
CPU Characteristics:
- CPU MHz: 1800
- FPU: Integrated

CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip
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: 10 MB I+D on chip per chip
Other Cache: None

Memory: 96 GB (12 x 8 GB 2Rx4 PC3-12800R-11, ECC, running at 1066 MHz)
Disk Subsystem: 1 x 1 TB 7200 RPM SAS
Other Hardware: None

Operating System: SUSE Linux Enterprise Server 11 SP2 (x86_64) 3.0.13-0.27-default
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 (add definition here)
Base Pointers: 32-bit
Peak Pointers: 32/64-bit
Other Software: Microquill SmartHeap V9.01
## SPEC CINT2006 Result

**Dell Inc.**

**PowerEdge M520 (Intel Xeon E5-2403, 1.80 GHz)**

Table: Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Base</th>
<th>Peak</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Copies</td>
<td>Seconds</td>
</tr>
<tr>
<td>400.perlbench</td>
<td>8</td>
<td>654</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>8</td>
<td>910</td>
</tr>
<tr>
<td>403.gcc</td>
<td>8</td>
<td>466</td>
</tr>
<tr>
<td>429.mcf</td>
<td>8</td>
<td>255</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>8</td>
<td>791</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>8</td>
<td>359</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>8</td>
<td>846</td>
</tr>
<tr>
<td>462.libquantum</td>
<td>8</td>
<td>158</td>
</tr>
<tr>
<td>464.h264ref</td>
<td>8</td>
<td>813</td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>8</td>
<td>486</td>
</tr>
<tr>
<td>473.astar</td>
<td>8</td>
<td>583</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>8</td>
<td>280</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

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 $ $Date:: 2011-10-11 #$ 6f2ebdfff5032aaa42e583f96b07f99d3
running on Blur-2P Wed Mar 21 00:33:38 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 E5-2403 0 @ 1.80GHz
- 2 "physical id"s (chips)
- 8 "processors"
- cores, siblings (Caution: counting these is hw and system dependent. The
Continued on next page
Dell Inc.

PowerEdge M520 (Intel Xeon E5-2403, 1.80 GHz)  

**SPEC CINT2006 Result**

<table>
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<tr>
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<td>166</td>
</tr>
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</table>

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

**Platform Notes (Continued)**

following excerpts from /proc/cpuinfo might not be reliable. Use with caution.)

- **cpu cores:** 4
- **siblings:** 4
- **physical 0: cores 0 1 2 3**
- **physical 1: cores 0 1 2 3**
- **cache size:** 10240 KB

From /proc/meminfo

- **MemTotal:** 99092560 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 Blur-2P 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 21 00:26 last=S

SPEC is set to: /root/CPU2006-1.2

Filesystem Type Size Used Avail Use% Mounted on
/dev/sda1 ext3 913G 8.3G 859G 1% /

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

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

runcspec command invoked through numactl i.e.:

numactl --interleave=all runspec <etc>
# SPEC CINT2006 Result

**Dell Inc.**

PowerEdge M520 (Intel Xeon E5-2403, 1.80 GHz)

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CPU2006 license: 55

Test sponsor: Dell Inc.

Test date: Mar-2012

Tested by: Dell Inc.

Hardware Availability: May-2012

Software Availability: Feb-2012

## Base Compiler Invocation

<table>
<thead>
<tr>
<th>C benchmarks:</th>
<th>icc -m32</th>
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</thead>
<tbody>
<tr>
<td>C++ benchmarks:</td>
<td>icpc -m32</td>
</tr>
</tbody>
</table>

## Base Portability Flags

- 400.perlbench: -DSPEC_CPU_LINUX_IA32
- 462.libquantum: -DSPEC_CPU_LINUX
- 483.xalancbmk: -DSPEC_CPU_LINUX

## Base Optimization Flags

<table>
<thead>
<tr>
<th>C benchmarks:</th>
<th>-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3</th>
</tr>
</thead>
<tbody>
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<td>C++ benchmarks:</td>
<td>-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3</td>
</tr>
<tr>
<td></td>
<td>-Wl,-z,muldefs -L/smartheap -lsmartheap</td>
</tr>
</tbody>
</table>

## 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
Dell Inc.

PowerEdge M520 (Intel Xeon E5-2403, 1.80 GHz)

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SPECint_rate_base2006 = 166

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

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

Peak Portability 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(pas 2) -prof-gen(pas 1) -ipo(pas 2)
-03(pas 2) -no-prec-div(pas 2) -prof-use(pas 2)
-auto-ilp32

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

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

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

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

462.libquantum: basepeak = yes

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

C++ benchmarks:

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

473.astar: basepeak = yes

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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
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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