Dell Inc. PowerEdge M910 (Intel Xeon E7-4830, 2.13 GHz)

SPECint_rate2006 = 387
SPECint_rate_base2006 = 362

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

Test date: May-2011
Hardware Availability: Apr-2011
Software Availability: Jan-2011

CPU Name: Intel Xeon E7-4830
CPU Characteristics: Intel Turbo Boost Technology up to 2.40 GHz
CPU MHz: 2133
FPU: Integrated
CPU(s) enabled: 16 cores, 2 chips, 8 cores/chip, 2 threads/core
CPU(s) orderable: 2.4 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: 24 MB I+D on chip per chip
Other Cache: None
Memory: 256 GB (32 x 8 GB 4Rx8 PC3L-8500R-7, ECC)
Disk Subsystem: 1 x 146 GB 15000 RPM SAS
Other Hardware: None

Operating System: SUSE Linux Enterprise Server 11 SP1 (x86_64), Kernel 2.6.32.12-0.7-default
Compiler: Intel C++ Compiler XE for applications running on IA-32
Version 12.0.1.116 Build 20101116
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
SPEC CINT2006 Result

Dell Inc.
PowerEdge M910 (Intel Xeon E7-4830, 2.13 GHz)

SPECint_rate2006 = 387
SPECint_rate_base2006 = 362

CPU2006 license: 55
Test sponsor: Dell Inc.
Test date: May-2011

Dell Inc.

CPU2006 license: 55
Test sponsor: Dell Inc.
Hardware Availability: Apr-2011
Software Availability: Jan-2011

Results Table

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>400.perlbench</td>
<td>32</td>
<td>1098</td>
<td>285</td>
<td>1092</td>
<td>286</td>
<td>1097</td>
<td>285</td>
<td>32</td>
<td>898</td>
<td>348</td>
<td>896</td>
<td>349</td>
<td>895</td>
<td>349</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>32</td>
<td>1477</td>
<td>209</td>
<td>1475</td>
<td>209</td>
<td>1476</td>
<td>209</td>
<td>32</td>
<td>1376</td>
<td>224</td>
<td>1371</td>
<td>225</td>
<td>1373</td>
<td>225</td>
</tr>
<tr>
<td>403.gcc</td>
<td>32</td>
<td>823</td>
<td>313</td>
<td>825</td>
<td>312</td>
<td>823</td>
<td>313</td>
<td>32</td>
<td>823</td>
<td>313</td>
<td>825</td>
<td>312</td>
<td>823</td>
<td>313</td>
</tr>
<tr>
<td>429.mcf</td>
<td>32</td>
<td>726</td>
<td>403</td>
<td>726</td>
<td>402</td>
<td>722</td>
<td>404</td>
<td>32</td>
<td>700</td>
<td>417</td>
<td>700</td>
<td>417</td>
<td>695</td>
<td>420</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>32</td>
<td>1023</td>
<td>328</td>
<td>1018</td>
<td>330</td>
<td>1024</td>
<td>328</td>
<td>32</td>
<td>964</td>
<td>348</td>
<td>972</td>
<td>345</td>
<td>965</td>
<td>348</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>32</td>
<td>664</td>
<td>450</td>
<td>656</td>
<td>455</td>
<td>657</td>
<td>454</td>
<td>32</td>
<td>491</td>
<td>608</td>
<td>491</td>
<td>607</td>
<td>491</td>
<td>609</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>32</td>
<td>1245</td>
<td>311</td>
<td>1247</td>
<td>310</td>
<td>1248</td>
<td>310</td>
<td>32</td>
<td>1164</td>
<td>333</td>
<td>1172</td>
<td>330</td>
<td>1171</td>
<td>331</td>
</tr>
<tr>
<td>462.libquantum</td>
<td>32</td>
<td>378</td>
<td>1750</td>
<td>379</td>
<td>1750</td>
<td>379</td>
<td>1750</td>
<td>32</td>
<td>378</td>
<td>1750</td>
<td>379</td>
<td>1750</td>
<td>381</td>
<td>1740</td>
</tr>
<tr>
<td>464.h264ref</td>
<td>32</td>
<td>1572</td>
<td>450</td>
<td>1595</td>
<td>444</td>
<td>1569</td>
<td>451</td>
<td>32</td>
<td>1595</td>
<td>444</td>
<td>1569</td>
<td>451</td>
<td>1575</td>
<td>450</td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>32</td>
<td>868</td>
<td>230</td>
<td>874</td>
<td>229</td>
<td>869</td>
<td>230</td>
<td>32</td>
<td>799</td>
<td>250</td>
<td>798</td>
<td>251</td>
<td>800</td>
<td>250</td>
</tr>
<tr>
<td>473.astar</td>
<td>32</td>
<td>1002</td>
<td>224</td>
<td>1002</td>
<td>224</td>
<td>1002</td>
<td>224</td>
<td>32</td>
<td>1002</td>
<td>224</td>
<td>1002</td>
<td>224</td>
<td>1002</td>
<td>224</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>32</td>
<td>618</td>
<td>357</td>
<td>619</td>
<td>357</td>
<td>618</td>
<td>357</td>
<td>32</td>
<td>618</td>
<td>357</td>
<td>619</td>
<td>357</td>
<td>618</td>
<td>357</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.
numactl was used to bind copies to the cores

Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
'mount -t hugetlbfs nodev /mnt/hugepages' was used to enable large pages
'echo 14400> /proc/sys/vm/nr_hugepages'
export HUGETLB_MORECORE=yes
export LD_PRELOAD=/usr/lib64/libhugetlbfs.so

Platform Notes

BIOS Settings:
Power Management = Maximum Performance (Default = Active Power Controller)

General Notes

Binaries were compiled on RHEL5.5

Base Compiler Invocation

C benchmarks:
icc -m32

Continued on next page
SPEC CINT2006 Result

Dell Inc.
PowerEdge M910 (Intel Xeon E7-4830, 2.13 GHz)

SPECint\_rate2006 = 387
SPECint\_rate\_base2006 = 362

CPU2006 license: 55
Test sponsor: Dell Inc.
Test date: May-2011
Test by: Dell Inc.
Hardware Availability: Apr-2011
Software Availability: Jan-2011

---

**Base Compiler Invocation (Continued)**

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
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/smartheap -lsmartheap
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

---

**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 M910 (Intel Xeon E7-4830, 2.13 GHz)  

| SPECint_rate2006 | 387 |
| SPECint_rate_base2006 | 362 |

CPU2006 license: 55  
Test sponsor: Dell Inc.  
Tested by: Dell Inc.  
Test date: May-2011  
Hardware Availability: Apr-2011  
Software Availability: Jan-2011

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(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT
401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -opt-prefetch -auto-ilp32 -ansi-alias -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT
403.gcc: basepeak = yes
429.mcf: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -ansi-alias -auto-ilp32
445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -ansi-alias -auto-ilp32
456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32 -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT
458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll14 -auto-ilp32 -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT
462.libquantum: basepeak = yes
464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(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) -ansi-alias -opt-ra-region-strategy=block -L/smartheap -lsmartheap

Continued on next page
SPEC CINT2006 Result

Dell Inc.

PowerEdge M910 (Intel Xeon E7-4830, 2.13 GHz)  

<table>
<thead>
<tr>
<th>SPECint_rate2006 = 387</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECint_rate_base2006 = 362</td>
</tr>
</tbody>
</table>

CPU2006 license: 55  
Test date: May-2011
Test sponsor: Dell Inc.  
Hardware Availability: Apr-2011
Tested by: Dell Inc.  
Software Availability: Jan-2011

Peak Optimization Flags (Continued)

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-ic12.0-linux64-revB.html
http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20110524.00.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.xml
http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20110524.00.xml

SPEC and SPECint are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

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

Tested with SPEC CPU2006 v1.1.  
Originally published on 21 June 2011.