Cisco Systems
Cisco UCS C200 M2 (Intel Xeon E5620, 2.40 GHz)

CPU2006 license: 9019
Test sponsor: Cisco Systems
Tested by: Cisco Systems

SPECint_rate2006 = 254
SPECint_rate_base2006 = 241

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></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>400.perlbench</td>
<td>16</td>
<td>893</td>
<td>175</td>
<td>896</td>
<td>175</td>
<td>893</td>
<td>175</td>
<td>16</td>
<td>756</td>
<td>207</td>
<td>758</td>
<td>206</td>
<td>258</td>
<td>206</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>16</td>
<td>1123</td>
<td>138</td>
<td>1120</td>
<td>138</td>
<td>1118</td>
<td>138</td>
<td>16</td>
<td>1059</td>
<td>146</td>
<td>1064</td>
<td>145</td>
<td>1063</td>
<td>145</td>
</tr>
<tr>
<td>403.mcf</td>
<td>16</td>
<td>742</td>
<td>173</td>
<td>744</td>
<td>173</td>
<td>741</td>
<td>174</td>
<td>16</td>
<td>752</td>
<td>171</td>
<td>746</td>
<td>173</td>
<td>764</td>
<td>169</td>
</tr>
<tr>
<td>429.gcc</td>
<td>16</td>
<td>397</td>
<td>368</td>
<td>397</td>
<td>368</td>
<td>397</td>
<td>367</td>
<td>16</td>
<td>397</td>
<td>368</td>
<td>397</td>
<td>368</td>
<td>397</td>
<td>367</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>16</td>
<td>868</td>
<td>193</td>
<td>869</td>
<td>193</td>
<td>871</td>
<td>193</td>
<td>16</td>
<td>827</td>
<td>203</td>
<td>827</td>
<td>203</td>
<td>829</td>
<td>202</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>16</td>
<td>543</td>
<td>275</td>
<td>541</td>
<td>276</td>
<td>545</td>
<td>274</td>
<td>16</td>
<td>413</td>
<td>361</td>
<td>408</td>
<td>366</td>
<td>409</td>
<td>365</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>16</td>
<td>1028</td>
<td>188</td>
<td>1028</td>
<td>188</td>
<td>1028</td>
<td>188</td>
<td>16</td>
<td>961</td>
<td>201</td>
<td>962</td>
<td>201</td>
<td>961</td>
<td>201</td>
</tr>
<tr>
<td>462.libquantum</td>
<td>16</td>
<td>235</td>
<td>1410</td>
<td>234</td>
<td>1420</td>
<td>235</td>
<td>1410</td>
<td>16</td>
<td>235</td>
<td>1410</td>
<td>234</td>
<td>1420</td>
<td>235</td>
<td>1410</td>
</tr>
<tr>
<td>464.h264ref</td>
<td>16</td>
<td>1355</td>
<td>261</td>
<td>1301</td>
<td>272</td>
<td>1307</td>
<td>271</td>
<td>16</td>
<td>1309</td>
<td>271</td>
<td>1348</td>
<td>263</td>
<td>1339</td>
<td>264</td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>16</td>
<td>597</td>
<td>168</td>
<td>596</td>
<td>168</td>
<td>596</td>
<td>168</td>
<td>16</td>
<td>555</td>
<td>180</td>
<td>555</td>
<td>180</td>
<td>554</td>
<td>181</td>
</tr>
<tr>
<td>473.astar</td>
<td>16</td>
<td>779</td>
<td>144</td>
<td>778</td>
<td>144</td>
<td>777</td>
<td>144</td>
<td>16</td>
<td>779</td>
<td>144</td>
<td>778</td>
<td>144</td>
<td>777</td>
<td>144</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>16</td>
<td>418</td>
<td>264</td>
<td>419</td>
<td>263</td>
<td>418</td>
<td>264</td>
<td>16</td>
<td>418</td>
<td>264</td>
<td>419</td>
<td>263</td>
<td>418</td>
<td>264</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
BIOS Configuration: Data Reuse Optimization = Disabled
Sysinfo program /opt/cpu2006/config/sysinfo.rev6800
$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdfff5032aaa42e583f96b07f99d3
running on localhost.localdomain Wed Feb 1 05:09:34 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 E5620 @ 2.40GHz
  2 "physical id"s (chips)
  16 "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 : 4

Continued on next page
## SPEC CINT2006 Result

### Cisco Systems

Cisco UCS C200 M2 (Intel Xeon E5620, 2.40 GHz)

| SPECint_rate2006 | = | 254 |
| SPECint_rate_base2006 | = | 241 |

**CPU2006 license:** 9019  
**Test sponsor:** Cisco Systems  
**Tested by:** Cisco Systems  
**Test date:** Jan-2012  
**Hardware Availability:** Mar-2011  
**Software Availability:** Dec-2011

### Platform Notes (Continued)

- **siblings**: 8  
- **physical 0**: cores 0 1 9 10  
- **physical 1**: cores 0 1 9 10  
- **cache size**: 12288 KB

From `/proc/meminfo`:
- **MemTotal**: 98997796 kB  
- **HugePages_Total**: 0  
- **Hugepagesize**: 2048 kB

```bash
/usr/bin/lsb_release -d
Red Hat Enterprise Linux Server release 6.2 (Santiago)
```

From `/etc/*release`:
- **redhat-release**: Red Hat Enterprise Linux Server release 6.2 (Santiago)  
- **system-release**: Red Hat Enterprise Linux Server release 6.2 (Santiago)

```bash
uname -a:
Linux localhost.localdomain 2.6.32-220.el6.x86_64 #1 SMP Wed Nov 9 08:03:13 EST 2011 x86_64 x86_64 x86_64 GNU/Linux
```

```bash
run-level 3 Feb 1 03:42
SPEC is set to: /opt/cpu2006
```

<table>
<thead>
<tr>
<th>Filesystem</th>
<th>Type</th>
<th>Size</th>
<th>Used</th>
<th>Avail</th>
<th>Use%</th>
<th>Mounted on</th>
</tr>
</thead>
<tbody>
<tr>
<td>/dev/sda1</td>
<td>ext4</td>
<td>917G</td>
<td>5.5G</td>
<td>865G</td>
<td>1%</td>
<td>/</td>
</tr>
</tbody>
</table>

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** = ",/opt/cpu2006/libs/32:/opt/cpu2006/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/redhat_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>`
Cisco Systems

Cisco UCS C200 M2 (Intel Xeon E5620, 2.40 GHz)

| SPECint_rate2006 | 254 |
| SPECint_rate_base2006 | 241 |

CPU2006 license: 9019
Test sponsor: Cisco Systems
Tested by: Cisco Systems

Test date: Jan-2012
Hardware Availability: Mar-2011
Software Availability: Dec-2011

**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
Cisco Systems
Cisco UCS C200 M2 (Intel Xeon E5620, 2.40 GHz)

**SPEC CINT2006 Result**

<table>
<thead>
<tr>
<th>SPECint_rate2006</th>
<th>254</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECint_rate_base2006</td>
<td>241</td>
</tr>
</tbody>
</table>

**CPU2006 license:** 9019
**Test sponsor:** Cisco Systems
**Tested by:** Cisco Systems

| Test date: | Jan-2012 |
| Hardware Availability: | Mar-2011 |
| Software Availability: | Dec-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) -prof-use(pass 2) -auto-ilp32`
- 401.bzip2: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -opt-prefetch -auto-ilp32 -ansi-alias`
- 403.gcc: `-xSSE4.2 -ipo -O3 -no-prec-div`
- 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 -O3 -no-prec-div -unroll2 -auto-ilp32`
- 458.sjeng: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(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) -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) -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
Cisco Systems  
Cisco UCS C200 M2 (Intel Xeon E5620, 2.40 GHz)  

SPECint_rate2006 = 254  
SPECint_rate_base2006 = 241  

CPU2006 license: 9019  
Test sponsor: Cisco Systems  
Tested by: Cisco Systems  

Test date: Jan-2012  
Hardware Availability: Mar-2011  
Software Availability: Dec-2011  

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/Cisco-Platform-Settings-V1.2.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/Cisco-Platform-Settings-V1.2.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 v1.2.  
Originally published on 8 March 2012.