# SPECint® CINT2006 Result

**Dell Inc.**

PowerEdge R620 (Intel Xeon E5-2609, 2.40 GHz)

<table>
<thead>
<tr>
<th>SPECint®_rate2006</th>
<th>224</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECint_rate_base2006</td>
<td>215</td>
</tr>
</tbody>
</table>

**CPU2006 license:** 55  
**Test date:** Apr-2012  
**Test sponsor:** Dell Inc.  
**Hardware Availability:** Mar-2012  
**Tested by:** Dell Inc.  
**Software Availability:** Feb-2012

### Hardware

<table>
<thead>
<tr>
<th>Copy</th>
<th>SPECint_rate2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dell Inc.</td>
<td>224</td>
</tr>
</tbody>
</table>

#### CPU Name:
Intel Xeon E5-2609

#### CPU Characteristics:
- CPU MHz: 2400
- 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: 128 GB (16 x 8 GB 2Rx4 PC3-12800R-11, ECC, running at 1066 MHz)
- Disk Subsystem: 2 x 146 GB 15000 RPM SAS, RAID 0
- Other Hardware: None

### Software

#### Operating System:
SUSE Linux Enterprise Server 11 SP2 (x86_64) 3.0.13-0.19-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 (multi-user)

#### Base Pointers:
32-bit

#### Peak Pointers:
32/64-bit

#### Other Software:
Microquill SmartHeap V9.01
SPEC CINT2006 Result

Dell Inc.

PowerEdge R620 (Intel Xeon E5-2609, 2.40 GHz)

SPECint_rate2006 = 224
SPECint_rate_base2006 = 215

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

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>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>8</td>
<td>495</td>
<td>158</td>
<td>495</td>
<td>158</td>
<td>495</td>
<td>158</td>
<td>8</td>
<td>407</td>
<td>192</td>
<td>406</td>
<td>192</td>
<td>407</td>
</tr>
<tr>
<td>401.bzip2</td>
<td>8</td>
<td>703</td>
<td>110</td>
<td>700</td>
<td>110</td>
<td>702</td>
<td>110</td>
<td>8</td>
<td>666</td>
<td>116</td>
<td>666</td>
<td>116</td>
<td>666</td>
</tr>
<tr>
<td>403.gcc</td>
<td>8</td>
<td>365</td>
<td>177</td>
<td>365</td>
<td>176</td>
<td>365</td>
<td>176</td>
<td>8</td>
<td>365</td>
<td>177</td>
<td>365</td>
<td>176</td>
<td>365</td>
</tr>
<tr>
<td>429.mcf</td>
<td>8</td>
<td>202</td>
<td>362</td>
<td>202</td>
<td>361</td>
<td>202</td>
<td>361</td>
<td>8</td>
<td>202</td>
<td>362</td>
<td>202</td>
<td>361</td>
<td>202</td>
</tr>
<tr>
<td>445.gobmk</td>
<td>8</td>
<td>596</td>
<td>141</td>
<td>597</td>
<td>141</td>
<td>597</td>
<td>141</td>
<td>8</td>
<td>587</td>
<td>143</td>
<td>586</td>
<td>143</td>
<td>586</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>8</td>
<td>273</td>
<td>274</td>
<td>269</td>
<td>278</td>
<td>270</td>
<td>277</td>
<td>8</td>
<td>249</td>
<td>299</td>
<td>249</td>
<td>300</td>
<td>249</td>
</tr>
<tr>
<td>458.sjeng</td>
<td>8</td>
<td>646</td>
<td>150</td>
<td>647</td>
<td>150</td>
<td>647</td>
<td>150</td>
<td>8</td>
<td>617</td>
<td>157</td>
<td>617</td>
<td>157</td>
<td>617</td>
</tr>
<tr>
<td>462.libquantum</td>
<td>8</td>
<td>120</td>
<td>1380</td>
<td>120</td>
<td>1380</td>
<td>120</td>
<td>1380</td>
<td>8</td>
<td>120</td>
<td>1380</td>
<td>120</td>
<td>1380</td>
<td>120</td>
</tr>
<tr>
<td>464.h264ref</td>
<td>8</td>
<td>599</td>
<td>295</td>
<td>613</td>
<td>289</td>
<td>612</td>
<td>289</td>
<td>8</td>
<td>594</td>
<td>298</td>
<td>594</td>
<td>298</td>
<td>594</td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>8</td>
<td>411</td>
<td>122</td>
<td>412</td>
<td>121</td>
<td>412</td>
<td>121</td>
<td>8</td>
<td>392</td>
<td>128</td>
<td>391</td>
<td>128</td>
<td>392</td>
</tr>
<tr>
<td>473.astar</td>
<td>8</td>
<td>449</td>
<td>125</td>
<td>452</td>
<td>124</td>
<td>451</td>
<td>125</td>
<td>8</td>
<td>449</td>
<td>125</td>
<td>452</td>
<td>124</td>
<td>451</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>8</td>
<td>217</td>
<td>255</td>
<td>217</td>
<td>254</td>
<td>217</td>
<td>254</td>
<td>8</td>
<td>217</td>
<td>255</td>
<td>217</td>
<td>254</td>
<td>217</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

System Profile set to Custom
CPU Power Management set to Maximum Performance
Memory Frequency set to Maximum Performance
C States/C1E set to Enabled
Sysinfo program /root/CPU2006-1.2/config/sysinfo.rev6800
$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdf5032aaa42e583f96b07f99d3
running on unsvr Fri Apr 13 11:30:45 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 E5-2609 0 @ 2.40GHz
  2 "physical id"s (chips)
  8 "processors" cores, siblings (Caution: counting these is hw and system dependent. The Continued on next page
SPEC CINT2006 Result

Dell Inc.

PowerEdge R620 (Intel Xeon E5-2609, 2.40 GHz)

SPECint_rate2006 = 224
SPECint_rate_base2006 = 215

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

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

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: 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 Apr 13 11:26 last=S

SPEC is set to: /root/CPU2006-1.2
Filesystem     Type  Size  Used Avail Use% Mounted on
/dev/sda1      ext3  265G   68G  183G  27% /

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

Continued on next page
## Dell Inc. PowerEdge R620 (Intel Xeon E5-2609, 2.40 GHz)

<table>
<thead>
<tr>
<th>SPECint_rate2006</th>
<th>= 224</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPECint_rate_base2006</td>
<td>= 215</td>
</tr>
</tbody>
</table>

**CPU2006 license:** 55  
**Test sponsor:** Dell Inc.  
**Tested by:** Dell Inc.  
**Test date:** Apr-2012  
**Hardware Availability:** Mar-2012  
**Software Availability:** Feb-2012  

### General Notes (Continued)

The results have been measured on a Dell PowerEdge R620 model.

### 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`

Continued on next page
Dell Inc.
PowerEdge R620 (Intel Xeon E5-2609, 2.40 GHz)

SPECint_rate2006 = 224
SPECint_rate_base2006 = 215

CPU2006 license: 55
Test sponsor: Dell Inc.
Test date: Apr-2012
Tested by: Dell Inc.
Hardware Availability: Mar-2012
Software Availability: Feb-2012

Peak Compiler Invocation (Continued)

458.sjeng: icc -m64
C++ benchmarks:
icpc -m32

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) -auto-ilp32
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
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 -O3 -no-prec-div -unroll2 -auto-ilp32
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) -unroll4 -auto-ilp32
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

Continued on next page
SPEC CINT2006 Result

Dell Inc.
PowerEdge R620 (Intel Xeon E5-2609, 2.40 GHz)

**SPECint_rate2006 = 224**
**SPECint_rate_base2006 = 215**

<table>
<thead>
<tr>
<th>CPU2006 license: 55</th>
<th>Test date: Apr-2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test sponsor: Dell Inc.</td>
<td>Hardware Availability: Mar-2012</td>
</tr>
<tr>
<td>Tested by: Dell Inc.</td>
<td>Software Availability: Feb-2012</td>
</tr>
</tbody>
</table>

**Peak Optimization Flags (Continued)**

C++ benchmarks:

471.omnetpp: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(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

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

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.
Report generated on Thu Jul 24 05:08:00 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 9 May 2012.