



SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

SPECint®_rate2006 = 367

NovaScale R430 F3 (Intel Xeon E5-2420, 1.90 GHz)

SPECint_rate_base2006 = 351

CPU2006 license: 20

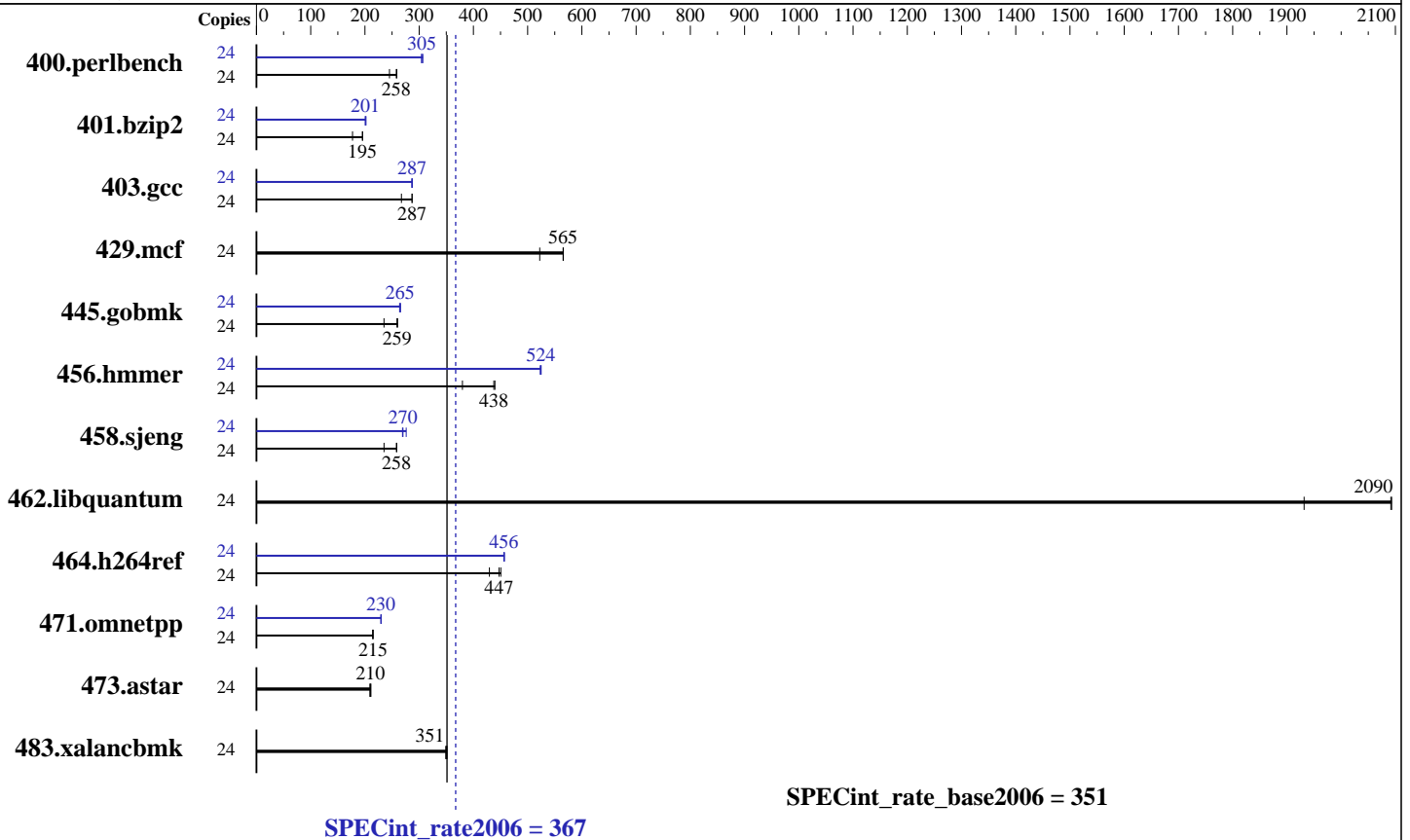
Test sponsor: Bull SAS

Tested by: Dell Inc.

Test date: Feb-2012

Hardware Availability: May-2012

Software Availability: Feb-2012



Hardware

CPU Name: Intel Xeon E5-2420
 CPU Characteristics: Intel Turbo Boost Technology up to 2.40 GHz
 CPU MHz: 1900
 FPU: Integrated
 CPU(s) enabled: 12 cores, 2 chips, 6 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: 15 MB I+D on chip per chip
 Other Cache: None
 Memory: 48 GB (6 x 8 GB 2Rx4 PC3-12800R-11, ECC, running at 1333 MHz)
 Disk Subsystem: 2 x 300 GB 15000 RPM SAS, RAID 1
 Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 11 SP2 (x86_64) 3.0.13-0.9-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

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

SPECint_rate2006 = 367

NovaScale R430 F3 (Intel Xeon E5-2420, 1.90 GHz)

SPECint_rate_base2006 = 351

CPU2006 license: 20
Test sponsor: Bull SAS
Tested by: Dell Inc.

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

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	24	956	245	<u>910</u>	<u>258</u>	906	259	24	<u>769</u>	<u>305</u>	764	307	771	304
401.bzip2	24	1308	177	<u>1186</u>	<u>195</u>	1183	196	24	1147	202	<u>1153</u>	<u>201</u>	1154	201
403.gcc	24	723	267	<u>673</u>	<u>287</u>	673	287	24	675	286	<u>673</u>	<u>287</u>	672	287
429.mcf	24	419	522	387	566	<u>387</u>	<u>565</u>	24	419	522	387	566	<u>387</u>	<u>565</u>
445.gobmk	24	1071	235	<u>972</u>	<u>259</u>	967	260	24	954	264	<u>950</u>	<u>265</u>	948	266
456.hammer	24	590	380	509	440	<u>512</u>	<u>438</u>	24	<u>427</u>	<u>524</u>	428	523	427	525
458.sjeng	24	1235	235	1122	259	<u>1126</u>	<u>258</u>	24	1079	269	<u>1075</u>	<u>270</u>	1052	276
462.libquantum	24	257	1930	<u>238</u>	<u>2090</u>	238	2090	24	257	1930	<u>238</u>	<u>2090</u>	238	2090
464.h264ref	24	1237	430	<u>1187</u>	<u>447</u>	1179	451	24	1164	456	<u>1164</u>	<u>456</u>	1161	457
471.omnetpp	24	<u>698</u>	<u>215</u>	700	214	698	215	24	653	230	654	230	<u>653</u>	<u>230</u>
473.astar	24	<u>802</u>	<u>210</u>	806	209	798	211	24	<u>802</u>	<u>210</u>	806	209	798	211
483.xalancbmk	24	472	351	<u>472</u>	<u>351</u>	475	349	24	472	351	<u>472</u>	<u>351</u>	475	349

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 #\$ 6f2ebdff5032aaa42e583f96b07f99d3
running on Slik Mon Feb 27 21:38:34 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 E5-2420 0 @ 1.90GHz
2 "physical id"s (chips)
24 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The
Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

SPECint_rate2006 = 367

NovaScale R430 F3 (Intel Xeon E5-2420, 1.90 GHz)

SPECint_rate_base2006 = 351

CPU2006 license: 20
Test sponsor: Bull SAS
Tested by: Dell Inc.

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

Platform Notes (Continued)

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

```
cpu cores : 6
siblings  : 12
physical 0: cores 0 1 2 3 4 5
physical 1: cores 0 1 2 3 4 5
cache size : 15360 KB
```

```
From /proc/meminfo
MemTotal:      49381468 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 Slik 3.0.13-0.9-default #1 SMP Mon Jan 16 17:33:03 UTC 2012 (54ddfaf)
x86_64 x86_64 x86_64 GNU/Linux
```

```
run-level 3 Feb 27 19:14 last=S
```

```
SPEC is set to: /root/CPU2006-1.2
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sdal        ext3  266G  7.4G  245G   3% /
```

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
runspec command invoked through numactl i.e.:
numactl --interleave=all runspec <etc>
The Dell PowerEdge R420 and the Bull NovaScale R430 F3 models are electronically equivalent.

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

SPECint_rate2006 = 367

NovaScale R430 F3 (Intel Xeon E5-2420, 1.90 GHz)

SPECint_rate_base2006 = 351

CPU2006 license: 20
Test sponsor: Bull SAS
Tested by: Dell Inc.

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

General Notes (Continued)

The results have been measured on a Dell PowerEdge R420 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



SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

SPECint_rate2006 = 367

NovaScale R430 F3 (Intel Xeon E5-2420, 1.90 GHz)

SPECint_rate_base2006 = 351

CPU2006 license: 20

Test date: Feb-2012

Test sponsor: Bull SAS

Hardware Availability: May-2012

Tested by: Dell Inc.

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: -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)
 -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

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

SPECint_rate2006 = 367

NovaScale R430 F3 (Intel Xeon E5-2420, 1.90 GHz)

SPECint_rate_base2006 = 351

CPU2006 license: 20

Test date: Feb-2012

Test sponsor: Bull SAS

Hardware Availability: May-2012

Tested by: Dell Inc.

Software Availability: Feb-2012

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 06:08:02 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 5 June 2012.