SPEC® CINT2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

NovaScale R440 F3 (Intel Xeon E5-2609, 2.40 GHz)

$SPECint®2006 =$ 35.6

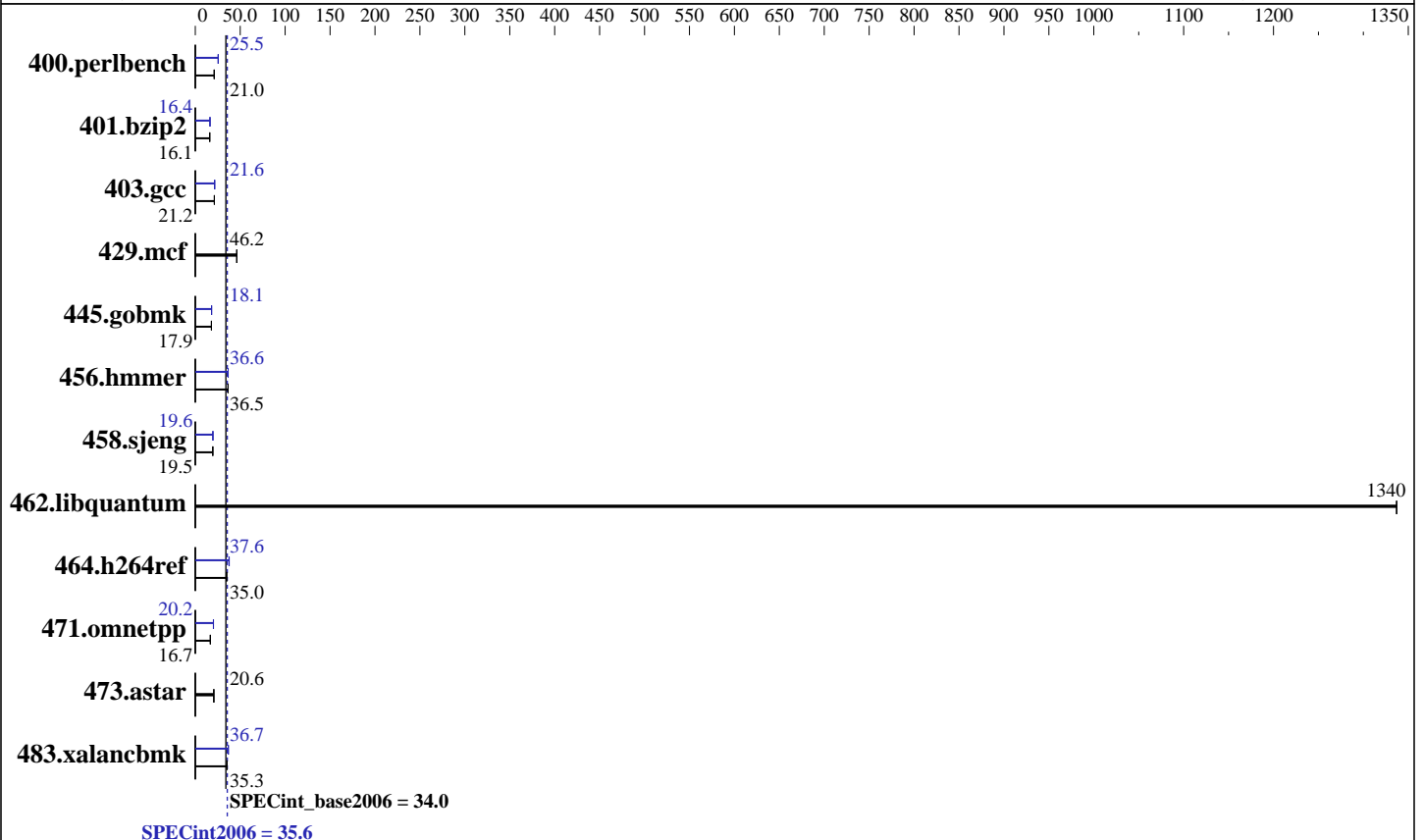$SPECint\_base2006 =$ 34.0

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

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

Benchmark result bar chart with scale 0, 50.0, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 750, 800, 850, 900, 950, 1000, 1100, 1200, 1350:

- 400.perlbench: 25.5 / 21.0
- 401.bzip2: 16.4 / 16.1
- 403.gcc: 21.6 / 21.2
- 429.mcf: 46.2
- 445.gobmk: 18.1 / 17.9
- 456.hmmer: 36.6 / 36.5
- 458.sjeng: 19.6 / 19.5
- 462.libquantum: 1340
- 464.h264ref: 37.6 / 35.0
- 471.omnetpp: 20.2 / 16.7
- 473.astar: 20.6
- 483.xalancbmk: 36.7 / 35.3

SPECint_base2006 = 34.0

SPECint2006 = 35.6

Hardware

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: Yes
File System: ext3
System State: Run level 3 (multi-user)
Base Pointers: 32/64-bit
Peak Pointers: 32/64-bit
Other Software: Microquill SmartHeap V9.01

SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

NovaScale R440 F3 (Intel Xeon E5-2609, 2.40 GHz)

SPECint2006 =	35.6
SPECint_base2006 =	34.0

CPU2006 license: 20　　　　　　　　　　　　　　　　　　　　　　　**Test date:** Apr-2012
Test sponsor: Bull SAS　　　　　　　　　　　　　　　　　**Hardware Availability:** Mar-2012
Tested by: Dell Inc.　　　　　　　　　　　　　　　　　　**Software Availability:** Feb-2012

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	461	21.2	465	21.0	**464**	**21.0**	384	25.5	383	25.5	**383**	**25.5**
401.bzip2	600	16.1	**600**	**16.1**	601	16.0	590	16.3	590	16.4	**590**	**16.4**
403.gcc	379	21.2	380	21.2	**379**	**21.2**	373	21.6	374	21.5	**374**	**21.6**
429.mcf	**197**	**46.2**	197	46.3	198	46.1	**197**	**46.2**	197	46.3	198	46.1
445.gobmk	584	18.0	585	17.9	**584**	**17.9**	**578**	**18.1**	578	18.1	578	18.1
456.hmmer	256	36.5	**256**	**36.5**	256	36.5	255	36.6	**255**	**36.6**	255	36.6
458.sjeng	**621**	**19.5**	621	19.5	621	19.5	618	19.6	**618**	**19.6**	617	19.6
462.libquantum	15.5	1340	15.5	1340	**15.5**	**1340**	15.5	1340	15.5	1340	**15.5**	**1340**
464.h264ref	642	34.5	631	35.1	**632**	**35.0**	586	37.8	**588**	**37.6**	589	37.6
471.omnetpp	373	16.8	374	16.7	**373**	**16.7**	310	20.2	**310**	**20.2**	308	20.3
473.astar	**341**	**20.6**	341	20.6	339	20.7	**341**	**20.6**	341	20.6	339	20.7
483.xalancbmk	194	35.5	**196**	**35.3**	196	35.3	188	36.7	**188**	**36.7**	187	36.8

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

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 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3
running on unsvr Thu Apr 12 13:17:03 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
   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
```

Continued on next page

Bull SAS

NovaScale R440 F3 (Intel Xeon E5-2609, 2.40 GHz)

$SPECint2006 = $ 35.6

$SPECint_base2006 = $ 34.0

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

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

Platform Notes (Continued)

```
      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 12 11:46 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:
 KMP_AFFINITY = "granularity=fine,scatter"
 LD_LIBRARY_PATH = "/root/CPU2006-1.2/libs/32:/root/CPU2006-1.2/libs/64"
 OMP_NUM_THREADS = "8"

 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
 The Dell PowerEdge R620  and
 the Bull NovaScale R440 F3 models are electronically equivalent.
 The results have been measured on a Dell PowerEdge R620 model.
```

Bull SAS

NovaScale R440 F3 (Intel Xeon E5-2609, 2.40 GHz)

SPECint2006 =   35.6

SPECint_base2006 =   34.0

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

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

Base Compiler Invocation

C benchmarks:
```
icc  -m64
```

C++ benchmarks:
```
icpc -m64
```

Base Portability Flags

```
  400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
      401.bzip2: -DSPEC_CPU_LP64
        403.gcc: -DSPEC_CPU_LP64
        429.mcf: -DSPEC_CPU_LP64
      445.gobmk: -DSPEC_CPU_LP64
      456.hmmer: -DSPEC_CPU_LP64
      458.sjeng: -DSPEC_CPU_LP64
  462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
     464.h264ref: -DSPEC_CPU_LP64
     471.omnetpp: -DSPEC_CPU_LP64
       473.astar: -DSPEC_CPU_LP64
   483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
```

Base Optimization Flags

C benchmarks:
```
-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32
```

C++ benchmarks:
```
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -Wl,-z,muldefs
-L/smartheap -lsmartheap64
```

Base Other Flags

C benchmarks:

```
403.gcc: -Dalloca=_alloca
```

Peak Compiler Invocation

C benchmarks (except as noted below):
```
icc  -m64
```

Continued on next page

SPEC CINT2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

Bull SAS

NovaScale R440 F3 (Intel Xeon E5-2609, 2.40 GHz)

$SPECint2006 = $ 35.6

$SPECint_base2006 = $ 34.0

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

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

Peak Compiler Invocation (Continued)

400.perlbench: `icc -m32`

445.gobmk: `icc -m32`

464.h264ref: `icc -m32`

C++ benchmarks (except as noted below):
`icpc -m32`

473.astar: `icpc -m64`

Peak Portability Flags

400.perlbench: `-DSPEC_CPU_LINUX_IA32`
401.bzip2: `-DSPEC_CPU_LP64`
403.gcc: `-DSPEC_CPU_LP64`
429.mcf: `-DSPEC_CPU_LP64`
456.hmmer: `-DSPEC_CPU_LP64`
458.sjeng: `-DSPEC_CPU_LP64`
462.libquantum: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX`
473.astar: `-DSPEC_CPU_LP64`
483.xalancbmk: `-DSPEC_CPU_LINUX`

Peak Optimization Flags

C benchmarks:

400.perlbench: `-xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)`
`-no-prec-div(pass 2) -prof-use(pass 2) -opt-prefetch`
`-ansi-alias`

401.bzip2: `-xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)`
`-no-prec-div -prof-use(pass 2) -auto-ilp32 -opt-prefetch`
`-ansi-alias`

403.gcc: `-xAVX -ipo -O3 -no-prec-div -inline-calloc`
`-opt-malloc-options=3 -auto-ilp32`

429.mcf: `basepeak = yes`

445.gobmk: `-xAVX(pass 2) -prof-gen(pass 1) -prof-use(pass 2)`
`-ansi-alias`

456.hmmer: `-xAVX -ipo -O3 -no-prec-div -unroll2 -auto-ilp32`
`-ansi-alias`

Bull SAS

NovaScale R440 F3 (Intel Xeon E5-2609, 2.40 GHz)

SPECint2006 = 35.6

SPECint_base2006 = 34.0

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

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

Peak Optimization Flags (Continued)

458.sjeng: `-xAVX`(pass 2) `-prof-gen`(pass 1) `-ipo`(pass 2) `-O3`(pass 2)
`-no-prec-div`(pass 2) `-prof-use`(pass 2) `-unroll4`

462.libquantum: `basepeak = yes`

464.h264ref: `-xAVX`(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: `-xAVX`(pass 2) `-prof-gen`(pass 1) `-ipo`(pass 2) `-O3`(pass 2)
`-no-prec-div`(pass 2) `-prof-use`(pass 2)
`-opt-ra-region-strategy=block`   `-ansi-alias`
`-Wl,-z,muldefs -L/smartheap -lsmartheap`

473.astar: `basepeak = yes`

483.xalancbmk: `-xAVX -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias`
`-Wl,-z,muldefs -L/smartheap -lsmartheap`

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

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 04:55:24 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 9 May 2012.