SPEC® CINT2006 Result
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Dell Inc.

PowerEdge R620 (Intel Xeon E5-2637, 3.00 GHz)

SPECint®_rate2006 =   194

SPECint_rate_base2006 =   185

CPU2006 license: 55

Test sponsor: Dell Inc.

Tested by: Dell Inc.

Test date: Mar-2012

Hardware Availability: Mar-2012

Software Availability: Feb-2012

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Hardware

CPU Name: Intel Xeon E5-2637

CPU Characteristics: Intel Turbo Boost Technology up to 3.50 GHz

CPU MHz: 3000

FPU: Integrated

CPU(s) enabled: 4 cores, 2 chips, 2 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: 5 MB I+D on chip per chip

Other Cache: None

Memory: 128 GB (16 x 8 GB 2Rx4 PC3-12800R-11, ECC)

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) 3.0.13-0.9-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 (multi-user)

Base Pointers: 32-bit

Peak Pointers: 32/64-bit

Other Software: Microquill SmartHeap V9.01

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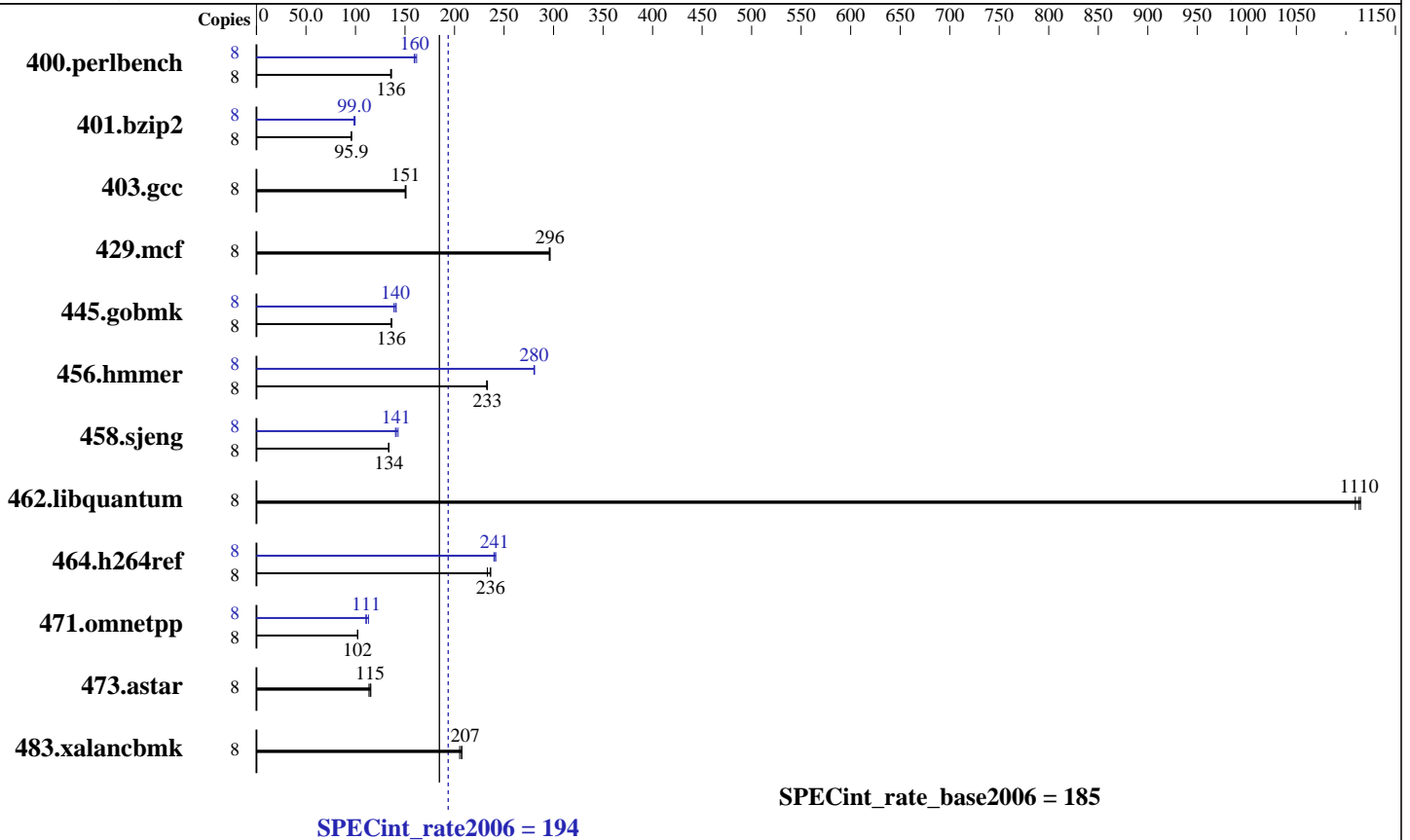SPECint_rate_base2006 = 185

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Results Table

Benchmark	Base Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	8	**575**	**136**	573	136	577	135	8	483	162	491	159	**489**	**160**
401.bzip2	8	806	95.8	**805**	**95.9**	805	95.9	8	**780**	**99.0**	784	98.5	775	99.6
403.gcc	8	**427**	**151**	427	151	429	150	8	**427**	**151**	427	151	429	150
429.mcf	8	247	296	246	296	**246**	**296**	8	247	296	246	296	**246**	**296**
445.gobmk	8	616	136	615	136	**616**	**136**	8	604	139	**598**	**140**	595	141
456.hmmer	8	320	233	**320**	**233**	321	232	8	266	280	**266**	**280**	266	281
458.sjeng	8	724	134	**724**	**134**	726	133	8	**686**	**141**	689	140	677	143
462.libquantum	8	149	1110	**149**	**1110**	149	1110	8	149	1110	**149**	**1110**	149	1110
464.h264ref	8	**749**	**236**	749	236	759	233	8	733	242	738	240	**736**	**241**
471.omnetpp	8	490	102	**489**	**102**	489	102	8	442	113	**451**	**111**	452	111
473.astar	8	**489**	**115**	494	114	486	115	8	**489**	**115**	494	114	486	115
483.xalancbmk	8	266	207	**267**	**207**	269	205	8	266	207	**267**	**207**	269	205

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
    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 unsvr Fri Mar 9 13:32:26 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 E5-2637 0 @ 3.00GHz
          2 "physical id"s (chips)
          8 "processors"

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Platform Notes (Continued)

```
    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 : 2
       siblings  : 4
       physical 0: cores 0 1
       physical 1: cores 0 1
    cache size : 5120 KB

  From /proc/meminfo
    MemTotal:       132089856 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 3.0.13-0.9-default #1 SMP Mon Jan 16 17:33:03 UTC 2012 (54ddfaf)
    x86_64 x86_64 x86_64 GNU/Linux

  run-level 3 Mar 9 13:29 last=S

  SPEC is set to: /root/CPU2006-1.2
    Filesystem      Type  Size  Used Avail Use% Mounted on
    /dev/sda1       ext3  265G   68G  183G  28% /

  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 R620  and
```

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General Notes (Continued)

the Bull NovaScale R440 F3 models are electronically equivalent.
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

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Peak Compiler Invocation (Continued)

456.hmmer: `icc -m64`

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`

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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

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

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