SPEC® CINT2006 Result

Bull SAS

NovaScale T840 F2 (Intel Xeon X5650, 2.66 GHz)

$SPECint®\_rate2006 = 363$

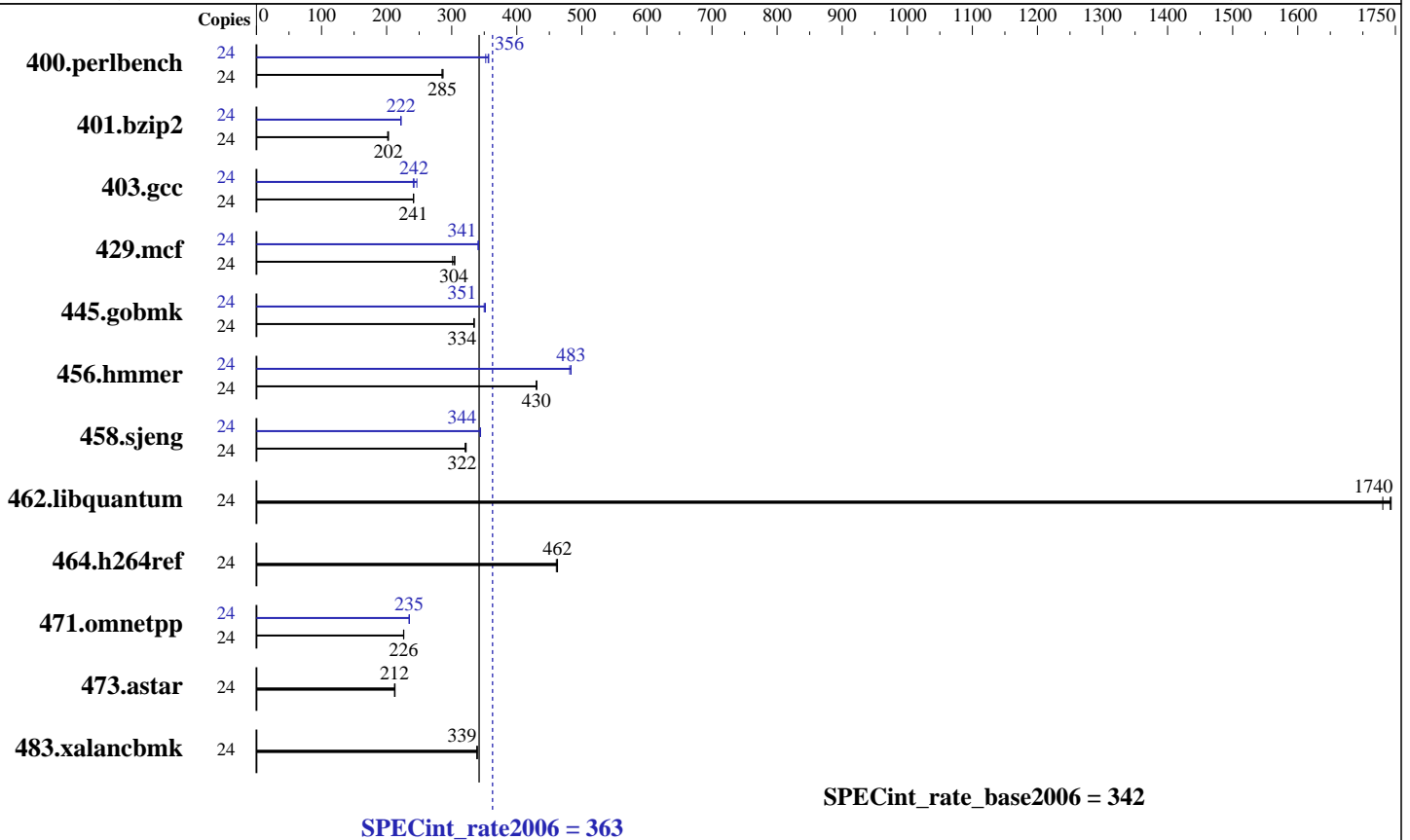$SPECint\_rate\_base2006 = 342$

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

Test date: Jul-2011
Hardware Availability: Mar-2010
Software Availability: Jan-2011

SPECint_rate_base2006 = 342

SPECint_rate2006 = 363

Hardware

CPU Name:	Intel Xeon X5650
CPU Characteristics:	Intel Turbo Boost Technology up to 3.06 GHz
CPU MHz:	2667
FPU:	Integrated
CPU(s) enabled:	12 cores, 2 chips, 6 cores/chip, 2 threads/core
CPU(s) orderable:	1,2 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core
L3 Cache:	12 MB I+D on chip per chip
Other Cache:	None
Memory:	48 GB (12 x 4 GB 2Rx4 PC3-10600R-9, ECC)
Disk Subsystem:	1 x 146 GB 15000 RPM SAS
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 11 SP1 (x86_64), Kernel 2.6.32.12-0.7-default
Compiler:	Intel C++ Compiler XE for applications running on IA-32 Version 12.0.1.116 Build 20101116
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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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	24	**821**	**285**	818	287	822	285	24	**659**	**356**	657	357	666	352
401.bzip2	24	1149	202	1142	203	**1144**	**202**	24	1042	222	**1044**	**222**	1045	222
403.gcc	24	**801**	**241**	799	242	801	241	24	**798**	**242**	802	241	784	246
429.mcf	24	**721**	**304**	718	305	726	301	24	**642**	**341**	641	341	643	340
445.gobmk	24	752	335	753	334	**753**	**334**	24	720	350	**717**	**351**	716	352
456.hmmer	24	**520**	**430**	520	431	521	430	24	465	481	**463**	**483**	463	483
458.sjeng	24	**902**	**322**	906	321	901	322	24	**844**	**344**	845	344	843	344
462.libquantum	24	285	1740	**285**	**1740**	287	1730	24	285	1740	**285**	**1740**	287	1730
464.h264ref	24	**1148**	**462**	1148	463	1153	461	24	**1148**	**462**	1148	463	1153	461
471.omnetpp	24	663	226	**663**	**226**	664	226	24	639	235	**639**	**235**	638	235
473.astar	24	794	212	**793**	**212**	791	213	24	794	212	**793**	**212**	791	213
483.xalancbmk	24	488	339	489	339	**488**	**339**	24	488	339	489	339	**488**	**339**

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

Submit Notes

```
   The config file option 'submit' was used.
    numactl was used to bind copies to the cores
```

Operating System Notes

```
    'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run

    'mount -t hugetlbfs nodev /mnt/hugepages' was used to enable large pages
    echo 10800 > /proc/sys/vm/nr_hugepages
    export HUGETLB_MORECORE=yes
    export LD_PRELOAD=/usr/lib64/libhugetlbfs.so
```

Platform Notes

```
    BIOS Settings:
    Power Management = Maximum Performance (Default = Active Power Controller)
    Data Reuse = Disabled (Default = Enabled)
```

General Notes

```
    The Dell PowerEdge T610 and
    the Bull NovaScale T840 F2 models are electronically equivalent.
    The results have been measured on a Dell PowerEdge T610 model
    Binaries were compiled on RHEL5.5
```

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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
    -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

C++ benchmarks:
    -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
    -L/smartheap -lsmartheap
    -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

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

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Peak Compiler Invocation (Continued)

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)
                    -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

        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
                    -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

        403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div
                    -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

        429.mcf: -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 -auto-ilp32

        445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
                    -ansi-alias -auto-ilp32

        456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
                    -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

        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
                    -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

     462.libquantum: basepeak = yes

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Peak Optimization Flags (Continued)

464.h264ref: basepeak = yes

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-ic12.0-linux64-revB.html
http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20110524.00.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.xml
http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20110524.00.xml

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

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