SPEC® CINT2006 Result
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Bull SAS

NovaScale T840 F3 (Intel Xeon E5-2665, 2.40 GHz)

$SPECint^{®}\_rate2006 = 610$

$SPECint\_rate\_base2006 = 585$

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

SPECint_rate_base2006 = 585

SPECint_rate2006 = 610

Hardware

CPU Name:	Intel Xeon E5-2665
CPU Characteristics:	Intel Turbo Boost Technology up to 3.10 GHz
CPU MHz:	2400
FPU:	Integrated
CPU(s) enabled:	16 cores, 2 chips, 8 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:	20 MB I+D on chip per chip
Other Cache:	None
Memory:	128 GB (16 x 8 GB 2Rx4 PC3-12800R-11, ECC)
Disk Subsystem:	1 x 1 TB 7200 RPM SATA
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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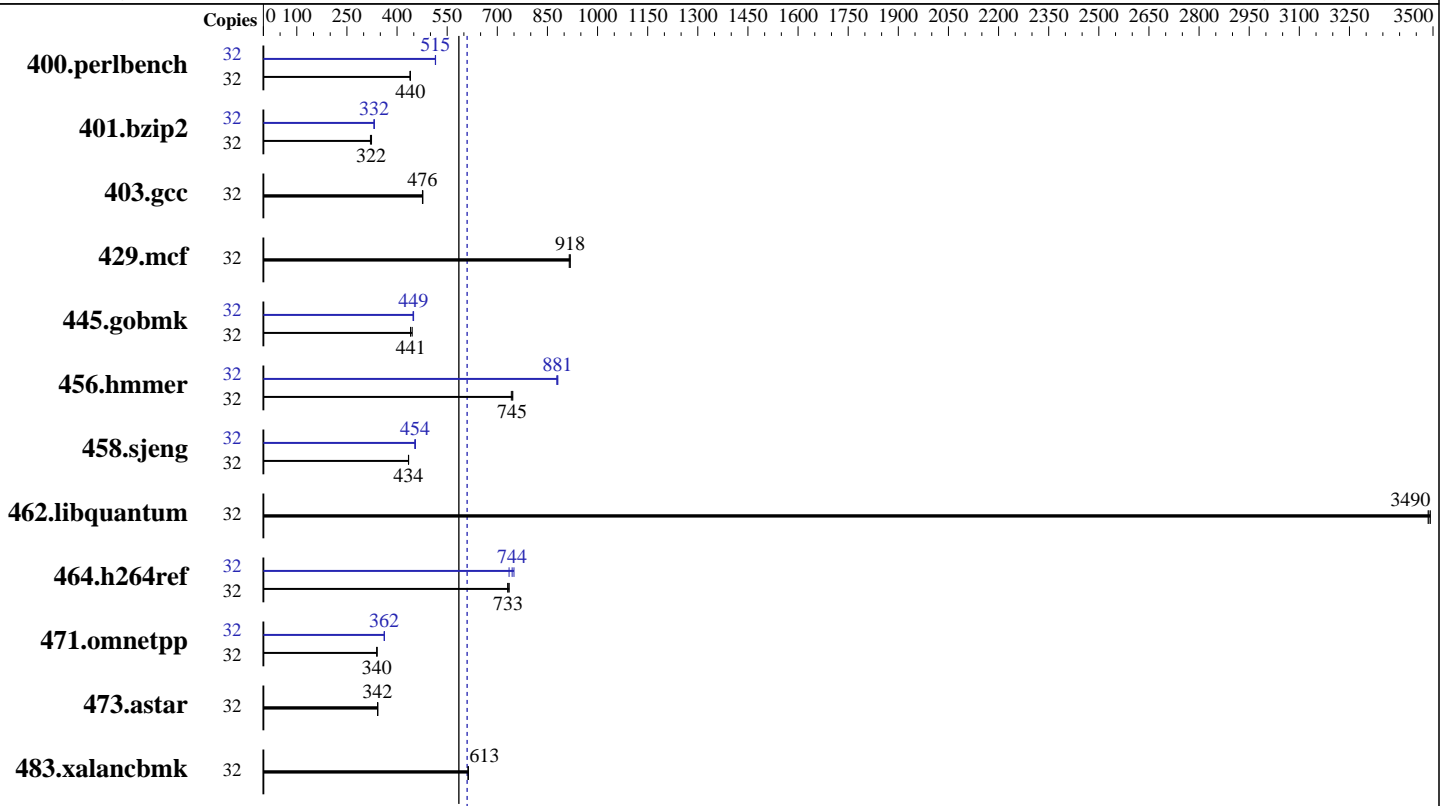**Test sponsor:** Bull SAS
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Test date: Feb-2012
Hardware Availability: Mar-2012
Software Availability: Feb-2012

Results Table

| Benchmark | Base | | | | | | | Peak | | | | | | |
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	32	**710**	**440**	713	439	710	440	32	**607**	**515**	607	515	608	515
401.bzip2	32	954	324	**958**	**322**	964	320	32	930	332	933	331	**931**	**332**
403.gcc	32	**541**	**476**	540	477	541	476	32	**541**	**476**	540	477	541	476
429.mcf	32	**318**	**918**	318	918	319	915	32	**318**	**918**	318	918	319	915
445.gobmk	32	**761**	**441**	762	440	754	445	32	**748**	**449**	747	450	749	448
456.hmmer	32	400	746	**401**	**745**	402	742	32	340	878	339	881	**339**	**881**
458.sjeng	32	892	434	**891**	**434**	891	435	32	**852**	**454**	854	453	851	455
462.libquantum	32	190	3490	190	3490	**190**	**3490**	32	190	3490	190	3490	**190**	**3490**
464.h264ref	32	963	736	969	731	**966**	**733**	32	**951**	**744**	944	750	963	735
471.omnetpp	32	588	340	**589**	**340**	589	339	32	553	362	**553**	**362**	552	362
473.astar	32	655	343	**658**	**342**	658	342	32	655	343	**658**	**342**	658	342
483.xalancbmk	32	**360**	**613**	360	613	360	613	32	**360**	**613**	360	613	360	613

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 linux-Sandy Tue Feb 7 09:12:38 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 E5-2665 0 @ 2.40GHz
         2 "physical id"s (chips)
         32 "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 : 8
       siblings  : 16
       physical 0: cores 0 1 2 3 4 5 6 7
       physical 1: cores 0 1 2 3 4 5 6 7
    cache size : 20480 KB

 From /proc/meminfo
    MemTotal:       132122692 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 linux-Sandy 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 7 09:09 last=5

 SPEC is set to: /root/CPU2006-1.2
    Filesystem      Type  Size  Used Avail Use% Mounted on
    /dev/sda2       ext3  197G   12G  176G   7% /

 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
 The Dell PowerEdge T620 and
 the Bull NovaScale T840 F3 models are electronically equivalent.
 The results have been measured on a Dell PowerEdge T620 model
 Filesystem page cache cleared with:
 echo 1>      /proc/sys/vm/drop_caches
 runspec command invoked through numactl i.e.:
 numactl --interleave=all runspec <etc>
```

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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 -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`

458.sjeng: `icc -m64`

C++ benchmarks:
```
icpc -m32
```

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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
```

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
```

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Peak Optimization Flags (Continued)

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.20120328.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.20120328.xml

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