SPEC® CINT2006 Result
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Cisco Systems

Cisco UCS B200 M2 (Intel Xeon E5649, 2.53 GHz)

SPECint®_rate2006 = 338

SPECint_rate_base2006 = 326

CPU2006 license: 9019	**Test date:** Jan-2012
Test sponsor: Cisco Systems	**Hardware Availability:** Mar-2011
Tested by: Cisco Systems	**Software Availability:** Dec-2011

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Hardware

CPU Name:	Intel Xeon E5649
CPU Characteristics:	Intel Turbo Boost Technology up to 2.93 GHz
CPU MHz:	2533
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:	96 GB (12 x 8 GB 2Rx4 PC3L-10600R-9, ECC)
Disk Subsystem:	600 GB SAS 10K RPM
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Server release 6.2 (Santiago) 2.6.32-220.el6.x86_64
Compiler:	C/C++: Version 12.1.0.225 of Intel C++ Studio XE for Linux
Auto Parallel:	No
File System:	ext4
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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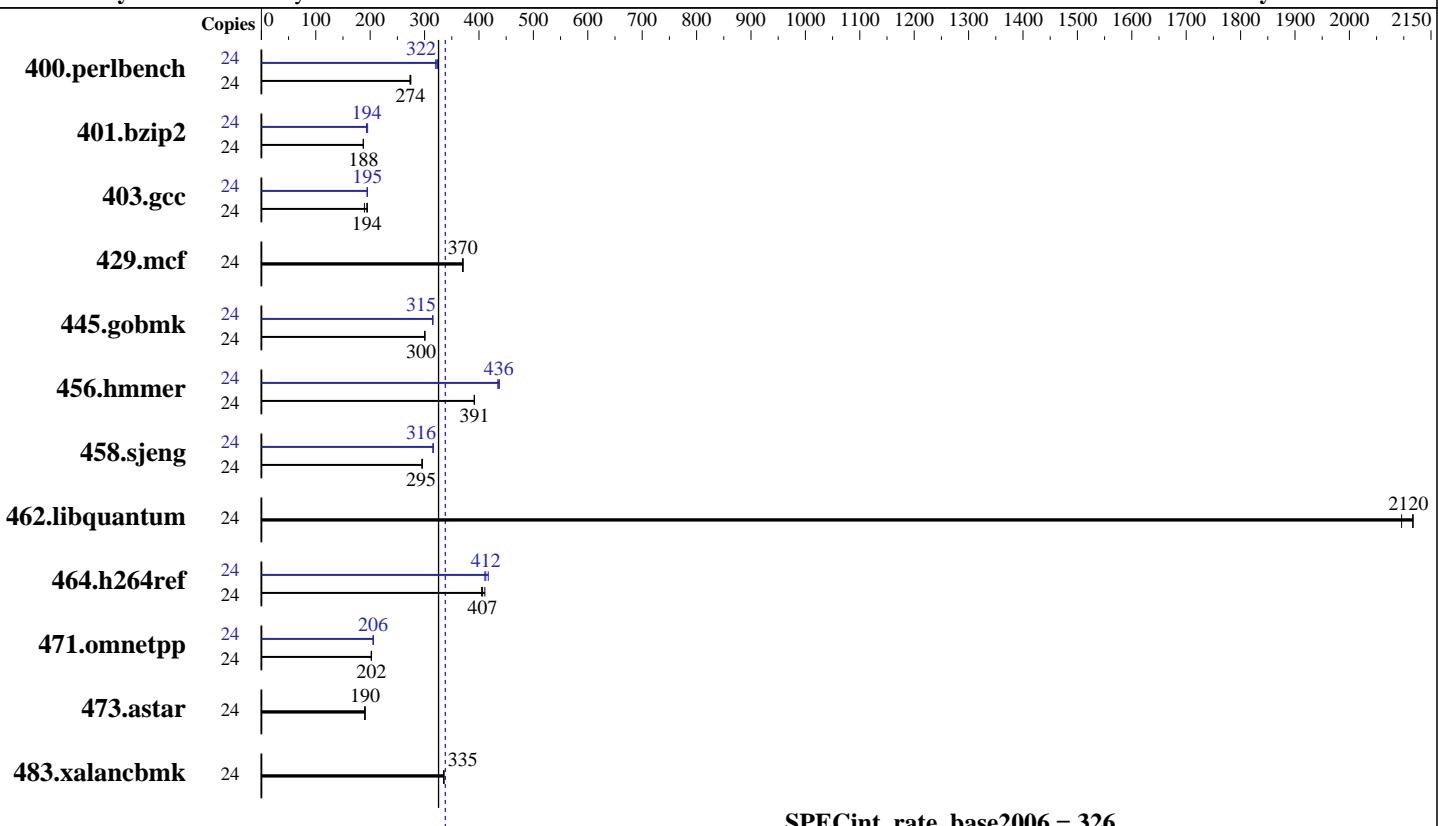**CPU2006 license:** 9019
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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	24	**856**	**274**	858	273	853	275	24	724	324	**727**	**322**	732	320
401.bzip2	24	1238	187	**1234**	**188**	1234	188	24	1198	193	**1195**	**194**	1186	195
403.gcc	24	**997**	**194**	991	195	1020	189	24	**992**	**195**	994	194	991	195
429.mcf	24	590	371	**591**	**370**	592	370	24	590	371	**591**	**370**	592	370
445.gobmk	24	**838**	**300**	838	301	839	300	24	799	315	799	315	**799**	**315**
456.hmmer	24	572	392	572	391	**572**	**391**	24	512	437	**513**	**436**	515	435
458.sjeng	24	984	295	**983**	**295**	982	296	24	**920**	**316**	920	316	919	316
462.libquantum	24	237	2100	**235**	**2120**	235	2120	24	237	2100	**235**	**2120**	235	2120
464.h264ref	24	**1306**	**407**	1293	411	1312	405	24	**1288**	**412**	1273	417	1293	411
471.omnetpp	24	743	202	741	203	**742**	**202**	24	730	205	**729**	**206**	729	206
473.astar	24	884	191	887	190	**885**	**190**	24	884	191	887	190	**885**	**190**
483.xalancbmk	24	494	335	493	336	**494**	**335**	24	494	335	493	336	**494**	**335**

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

   BIOS Configuration : Data Reuse Optimization = Disabled
    Sysinfo program /opt/cpu2006/config/sysinfo.rev6800
    $Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdff5032aaa42e583f96b07f99d3
    running on localhost.localdomain Sun Jan 22 02:06:39 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 E5649 @ 2.53GHz
          2 "physical id"s (chips)
          24 "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 : 6

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Platform Notes (Continued)

```
      siblings  : 12
      physical 0: cores 0 1 2 8 9 10
      physical 1: cores 0 1 2 8 9 10
   cache size : 12288 KB

From /proc/meminfo
   MemTotal:        98999868 kB
   HugePages_Total:        0
   Hugepagesize:        2048 kB

/usr/bin/lsb_release -d
   Red Hat Enterprise Linux Server release 6.2 (Santiago)

From /etc/*release* /etc/*version*
   redhat-release: Red Hat Enterprise Linux Server release 6.2 (Santiago)
   system-release: Red Hat Enterprise Linux Server release 6.2 (Santiago)
   system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

uname -a:
   Linux localhost.localdomain 2.6.32-220.el6.x86_64 #1 SMP Wed Nov 9 08:03:13
   EST 2011 x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Jan 22 01:50

SPEC is set to: /opt/cpu2006
   Filesystem      Type     Size  Used Avail Use% Mounted on
   /dev/sda1       ext4     551G  5.5G  517G   2% /

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 = "/opt/cpu2006/libs/32:/opt/cpu2006/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/redhat_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>
```

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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: -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
```

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/Cisco-Platform-Settings-V1.2.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/Cisco-Platform-Settings-V1.2.xml

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

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