SPEC® CINT2006 Result
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Cisco Systems

Cisco UCS B440 M2 (Intel Xeon E7-4870, 2.40 GHz)

$SPECint^®_rate2006 = $ 1100

$SPECint_rate_base2006 = $ 1030
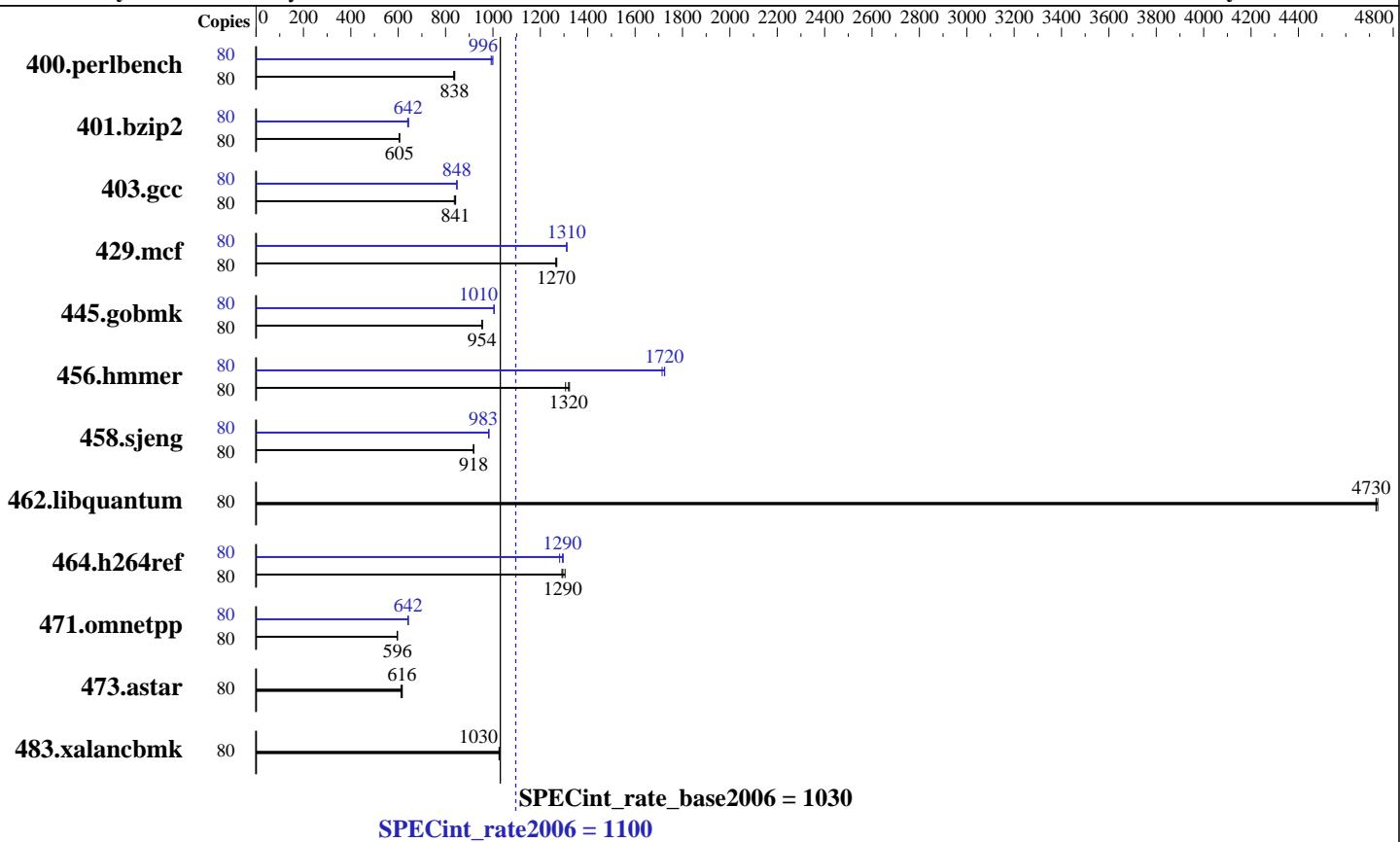
CPU2006 license: 9019
Test sponsor: Cisco Systems
Tested by: Cisco Systems

Test date: May-2011
Hardware Availability: May-2011
Software Availability: Mar-2011

Benchmark	Copies	Peak	Base
400.perlbench	80	996	838
401.bzip2	80	642	605
403.gcc	80	848	841
429.mcf	80	1310	1270
445.gobmk	80	1010	954
456.hmmer	80	1720	1320
458.sjeng	80	983	918
462.libquantum	80	4730	
464.h264ref	80	1290	1290
471.omnetpp	80	642	596
473.astar	80	616	
483.xalancbmk	80	1030	

SPECint_rate_base2006 = 1030
SPECint_rate2006 = 1100

Hardware

CPU Name: Intel Xeon E7-4870
CPU Characteristics: Intel Turbo Boost Technology up to 2.80 GHz
CPU MHz: 2400
FPU: Integrated
CPU(s) enabled: 40 cores, 4 chips, 10 cores/chip, 2 threads/core
CPU(s) orderable: 1,2,3,4 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: 30 MB I+D on chip per chip
Other Cache: None
Memory: 512 GB (32 x 16 GB 4Rx4 PC3-8500R-9, ECC)
Disk Subsystem: 146 GB SAS, 15K RPM
Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 6.1 Beta
Kernel 2.6.32-130.el6.x86_64
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	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
		Base							**Peak**					
400.perlbench	80	937	834	**933**	**838**	932	839	80	782	1000	**785**	**996**	788	992
401.bzip2	80	**1275**	**605**	1275	605	1276	605	80	1200	644	1206	640	**1202**	**642**
403.gcc	80	764	842	769	837	**765**	**841**	80	760	847	759	848	**760**	**848**
429.mcf	80	**576**	**1270**	576	1270	575	1270	80	**556**	**1310**	556	1310	557	1310
445.gobmk	80	878	955	**880**	**954**	880	954	80	835	1010	836	1000	**835**	**1010**
456.hmmer	80	571	1310	**566**	**1320**	564	1320	80	**433**	**1720**	433	1730	436	1710
458.sjeng	80	**1054**	**918**	1054	918	1054	919	80	**985**	**983**	985	983	986	982
462.libquantum	80	**351**	**4730**	350	4730	351	4730	80	**351**	**4730**	350	4730	351	4730
464.h264ref	80	1371	1290	**1367**	**1290**	1357	1300	80	1366	1300	**1369**	**1290**	1382	1280
471.omnetpp	80	**839**	**596**	839	596	838	597	80	**779**	**642**	778	642	779	641
473.astar	80	918	612	910	617	**912**	**616**	80	918	612	910	617	**912**	**616**
483.xalancbmk	80	**537**	**1030**	536	1030	538	1030	80	**537**	**1030**	536	1030	538	1030

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
    Large pages were disabled for this run
```

Platform Notes

```
    BIOS Configuration : Data Reuse Optimization = Disabled
```

General Notes

```
    Binaries compiled on RHEL5.5 with
    binutils-2.17.50.0.6-14.el5
```

Base Compiler Invocation

C benchmarks:
```
    icc -m32
```

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

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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
```

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

Peak Portability Flags

```
400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
```

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Peak Portability Flags (Continued)

```
       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

      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
```

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Peak Optimization Flags (Continued)

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/Cisco-Platform-Settings.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/Cisco-Platform-Settings.xml

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

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