SPEC® CINT2006 Result

Cisco Systems

$SPECint^®\_rate2006 =$ 1090

Cisco UCS C460 M2 (Intel Xeon E7-4870, 2.40 GHz)

$SPECint\_rate\_base2006 =$ 1030

SPECint_rate_base2006 = 1030
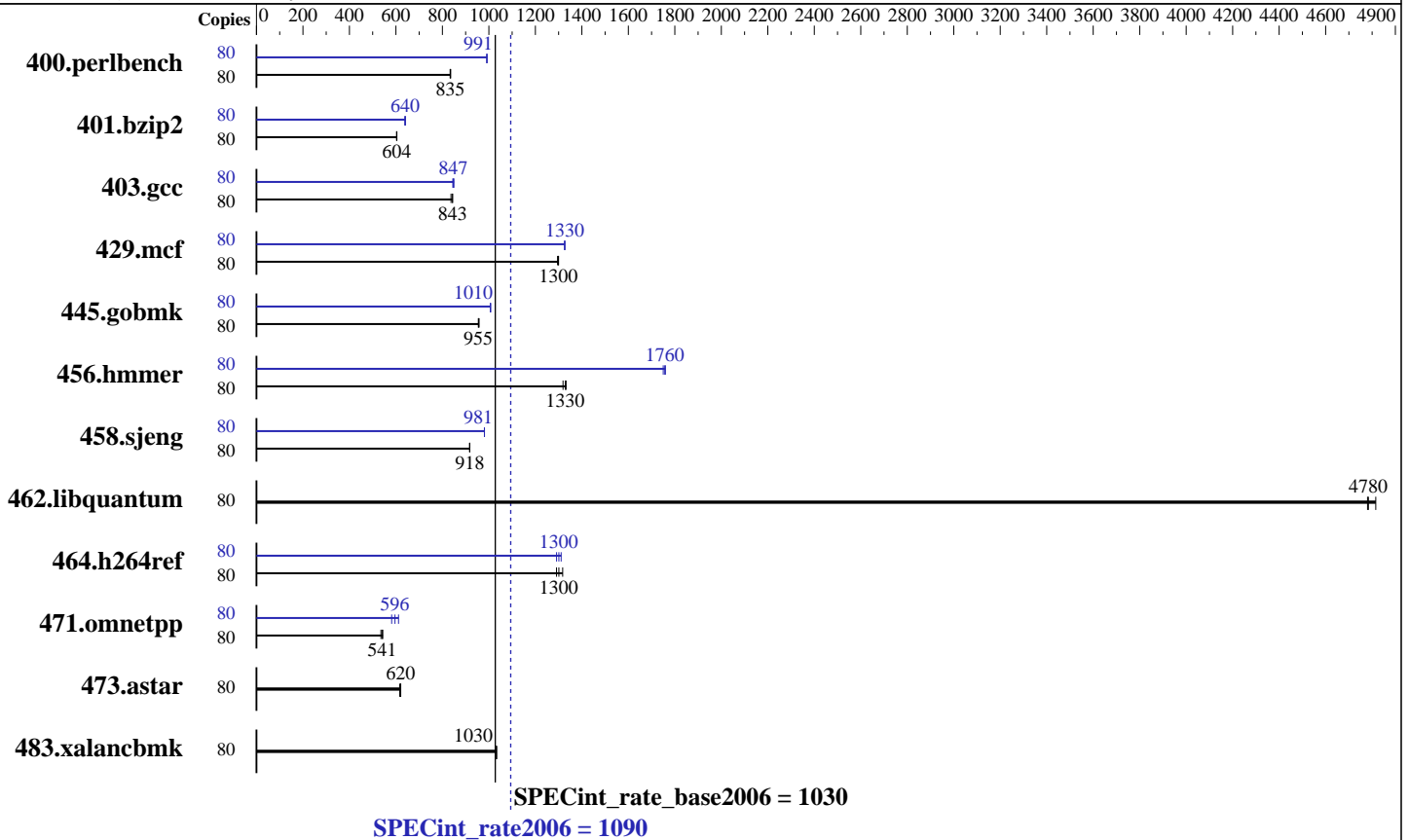
SPECint_rate2006 = 1090

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:	1 TB (64 x 16 GB 4Rx4 PC3-8500R-9, ECC)
Disk Subsystem:	146 GB SAS, 15K RPM
Other Hardware:	None

Software

Operating System:	Redhat Enterprise Linux 6.0, Kernel 2.6.32-71.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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CPU2006 license: 9019
Test sponsor: Cisco Systems
Tested by: Cisco Systems

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

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	80	936	835	938	833	**936**	**835**	80	788	992	**788**	**991**	789	991
401.bzip2	80	1278	604	**1278**	**604**	1281	603	80	1204	641	**1206**	**640**	1209	638
403.gcc	80	763	844	**763**	**843**	769	837	80	**760**	**847**	762	845	758	850
429.mcf	80	561	1300	**562**	**1300**	563	1300	80	550	1330	**550**	**1330**	550	1330
445.gobmk	80	876	958	879	955	**879**	**955**	80	**834**	**1010**	834	1010	833	1010
456.hmmer	80	**562**	**1330**	566	1320	560	1330	80	**425**	**1760**	424	1760	426	1750
458.sjeng	80	**1055**	**918**	1056	917	1055	918	80	987	981	**987**	**981**	987	981
462.libquantum	80	347	4780	**346**	**4780**	344	4820	80	347	4780	**346**	**4780**	344	4820
464.h264ref	80	1344	1320	**1361**	**1300**	1371	1290	80	1371	1290	**1361**	**1300**	1351	1310
471.omnetpp	80	**925**	**541**	934	535	920	544	80	818	611	860	582	**839**	**596**
473.astar	80	905	621	**905**	**620**	911	616	80	905	621	**905**	**620**	911	616
483.xalancbmk	80	535	1030	534	1030	**535**	**1030**	80	535	1030	534	1030	**535**	**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 not enabled 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 -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT
```

C++ benchmarks:
```
    icpc -m32 -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT
```

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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

C++ benchmarks:

        -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -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 -m64
        -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

            403.gcc: icc -m32
                    -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

            429.mcf: icc -m32

          445.gobmk: icc -m32

      462.libquantum: icc -m32
                    -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

        464.h264ref: icc -m32

C++ benchmarks (except as noted below):
        icpc -m32 -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

          471.omnetpp: 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)

          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: -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

          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 file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revA.20110303.02.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revA.20110303.02.xml

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

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