SPEC® CINT2006 Result

NEC Corporation

Express5800/T120g (Intel Xeon E5-2697 v4)

SPECint®2006 =   73.6

SPECint_base2006 =   71.0

```
400.perlbench    45.3
                 41.3
401.bzip2        25.3
                 24.8
403.gcc          38.1
                 38.1
429.mcf          64.1
                 63.8
445.gobmk        30.6
                 30.5
456.hmmer        88.3
458.sjeng        36.4
                 35.9
462.libquantum   8740
464.h264ref      58.0
471.omnetpp      55.6
                 46.9
473.astar        36.9
                 36.8
483.xalancbmk    87.5
                 77.6
```

SPECint_base2006 = 71.0

SPECint2006 = 73.6

Hardware

CPU Name:	Intel Xeon E5-2697 v4
CPU Characteristics:	Intel Turbo Boost Technology up to 3.60 GHz
CPU MHz:	2300
FPU:	Integrated
CPU(s) enabled:	36 cores, 2 chips, 18 cores/chip
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:	45 MB I+D on chip per chip
Other Cache:	None
Memory:	256 GB (16 x 16 GB 2Rx4 PC4-2400T-R)
Disk Subsystem:	1 x 1 TB SATA, 7200 RPM
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Server release 7.2 (Maipo) Kernel 3.10.0-327.4.5.el7.x86_64
Compiler:	C/C++: Version 16.0.0.101 of Intel C++ Studio XE for Linux
Auto Parallel:	Yes
File System:	ext4
System State:	Run level 3 (multi-user)
Base Pointers:	32/64-bit
Peak Pointers:	32/64-bit
Other Software:	Microquill SmartHeap V10.2

SPEC CINT2006 Result
Copyright 2006-2016 Standard Performance Evaluation Corporation

NEC Corporation

SPECint2006 = 73.6

Express5800/T120g (Intel Xeon E5-2697 v4)
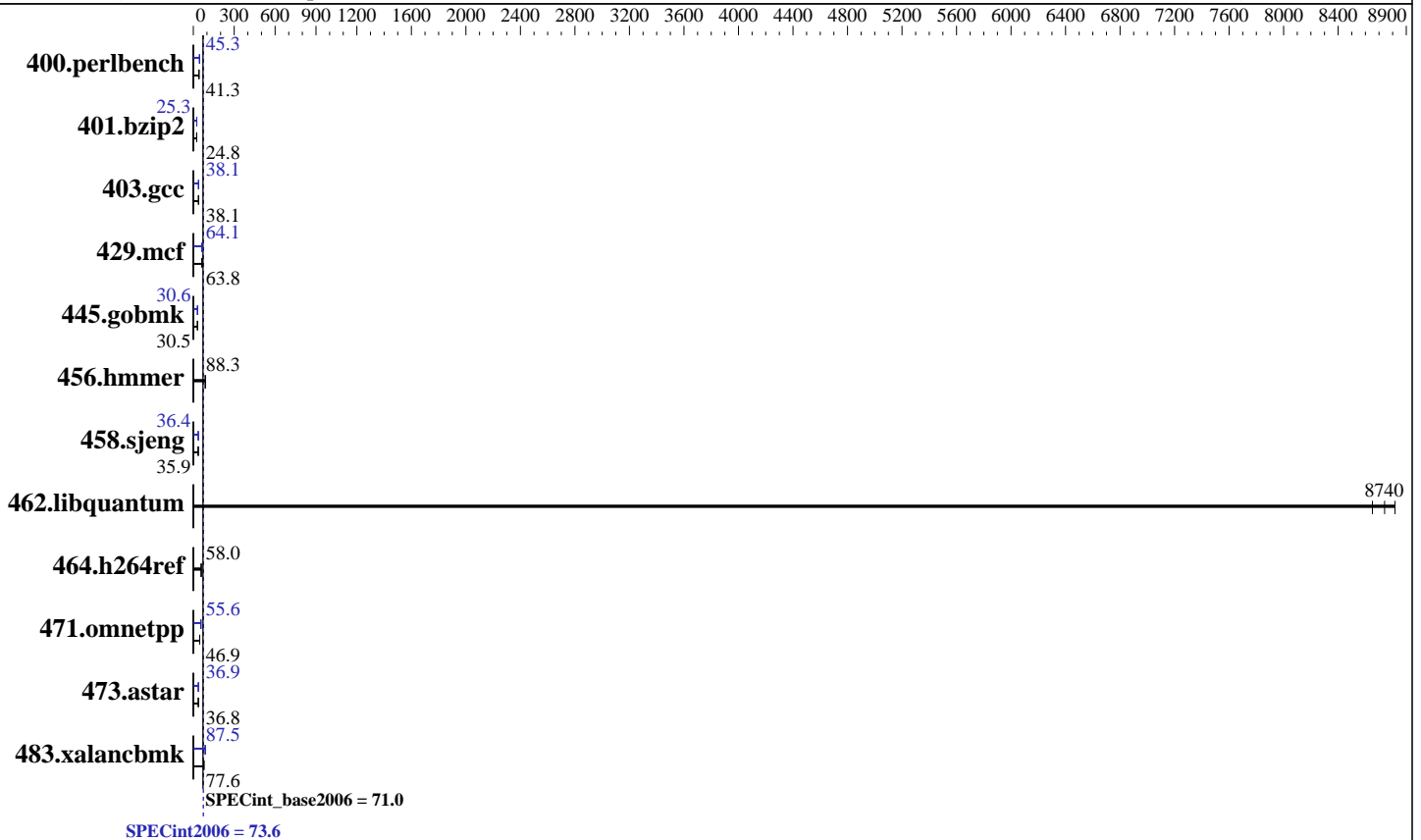
SPECint_base2006 = 71.0

CPU2006 license: 9006
Test sponsor: NEC Corporation
Tested by: NEC Corporation

Test date: Mar-2016
Hardware Availability: Apr-2016
Software Availability: Jan-2016

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	237	41.3	**237**	**41.3**	236	41.3	215	45.5	**216**	**45.3**	216	45.3
401.bzip2	391	24.7	389	24.8	**389**	**24.8**	**381**	**25.3**	380	25.4	381	25.3
403.gcc	211	38.1	211	38.1	**211**	**38.1**	211	38.2	212	38.1	**211**	**38.1**
429.mcf	142	64.0	146	62.4	**143**	**63.8**	**142**	**64.1**	145	63.0	140	65.0
445.gobmk	**344**	**30.5**	343	30.5	344	30.5	343	30.6	**343**	**30.6**	343	30.5
456.hmmer	**106**	**88.3**	106	88.4	106	87.8	**106**	**88.3**	106	88.4	106	87.8
458.sjeng	337	35.9	337	35.9	**337**	**35.9**	333	36.3	333	36.4	**333**	**36.4**
462.libquantum	2.35	8820	**2.37**	**8740**	2.39	8650	2.35	8820	**2.37**	**8740**	2.39	8650
464.h264ref	381	58.1	382	57.9	**381**	**58.0**	381	58.1	382	57.9	**381**	**58.0**
471.omnetpp	133	47.1	**133**	**46.9**	134	46.6	112	55.8	**112**	**55.6**	113	55.5
473.astar	191	36.8	191	36.8	**191**	**36.8**	191	36.8	**190**	**36.9**	190	37.0
483.xalancbmk	88.8	77.7	**88.9**	**77.6**	89.4	77.1	**78.8**	**87.5**	78.7	87.7	78.9	87.4

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.

Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

Platform Notes

```
    BIOS Settings:
      Power Management Policy: Custom
      Energy Performance: Performance
      Patrol Scrub: Disabled
      Snoop Mode: Home Snoop with Directory
      Hyper-Threading: Disabled
```

General Notes

```
    Environment variables set by runspec before the start of the run:
    KMP_AFFINITY = "granularity=fine,compact"
    LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64:/home/cpu2006/sh"
    OMP_NUM_THREADS = "36"

     Binaries compiled on a system with 1x Intel Core i5-4670K CPU + 32GB
     memory using RedHat EL 7.1
     Transparent Huge Pages enabled with:
     echo always > /sys/kernel/mm/transparent_hugepage/enabled
```

SPEC CINT2006 Result
Copyright 2006-2016 Standard Performance Evaluation Corporation

NEC Corporation

Express5800/T120g (Intel Xeon E5-2697 v4)

SPECint2006 = 73.6

SPECint_base2006 = 71.0

CPU2006 license: 9006
Test sponsor: NEC Corporation
Tested by: NEC Corporation

Test date: Mar-2016
Hardware Availability: Apr-2016
Software Availability: Jan-2016

Base Compiler Invocation

C benchmarks:
    icc -m64

C++ benchmarks:
    icpc -m64

Base Portability Flags

        400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
           401.bzip2: -DSPEC_CPU_LP64
             403.gcc: -DSPEC_CPU_LP64
             429.mcf: -DSPEC_CPU_LP64
          445.gobmk: -DSPEC_CPU_LP64
          456.hmmer: -DSPEC_CPU_LP64
           458.sjeng: -DSPEC_CPU_LP64
     462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
         464.h264ref: -DSPEC_CPU_LP64
         471.omnetpp: -DSPEC_CPU_LP64
            473.astar: -DSPEC_CPU_LP64
     483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
    -xCORE-AVX2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32

C++ benchmarks:
    -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
    -Wl,-z,muldefs -L/sh -lsmartheap64

Base Other Flags

C benchmarks:

        403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
    icc -m64

NEC Corporation

Express5800/T120g (Intel Xeon E5-2697 v4)

SPECint2006 =   73.6

SPECint_base2006 =   71.0

CPU2006 license: 9006
Test sponsor: NEC Corporation
Tested by: NEC Corporation

Test date: Mar-2016
Hardware Availability: Apr-2016
Software Availability: Jan-2016

Peak Compiler Invocation (Continued)

400.perlbench: `icc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin`

445.gobmk: `icc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin`

C++ benchmarks (except as noted below):
`icpc -m32 -L/opt/intel/compilers_and_libraries_2016/linux/compiler/lib/ia32_lin`

473.astar: `icpc -m64`

Peak Portability Flags

400.perlbench: `-D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX_IA32`
401.bzip2: `-DSPEC_CPU_LP64`
403.gcc: `-DSPEC_CPU_LP64`
429.mcf: `-DSPEC_CPU_LP64`
445.gobmk: `-D_FILE_OFFSET_BITS=64`
456.hmmer: `-DSPEC_CPU_LP64`
458.sjeng: `-DSPEC_CPU_LP64`
462.libquantum: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX`
464.h264ref: `-DSPEC_CPU_LP64`
471.omnetpp: `-D_FILE_OFFSET_BITS=64`
473.astar: `-DSPEC_CPU_LP64`
483.xalancbmk: `-D_FILE_OFFSET_BITS=64 -DSPEC_CPU_LINUX`

Peak Optimization Flags

C benchmarks:

400.perlbench: `-xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)`
`-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)`
`-par-num-threads=1(pass 1) -prof-use(pass 2) -opt-prefetch`
`-ansi-alias`

401.bzip2: `-xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)`
`-ipo(pass 2) -O3(pass 2) -no-prec-div`
`-par-num-threads=1(pass 1) -prof-use(pass 2) -auto-ilp32`
`-opt-prefetch -ansi-alias`

403.gcc: `-xCORE-AVX2 -ipo -O3 -no-prec-div -inline-calloc`
`-opt-malloc-options=3 -auto-ilp32`

429.mcf: `-xCORE-AVX2 -ipo -O3 -no-prec-div -parallel`
`-opt-prefetch -auto-p32`

445.gobmk: `-xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)`
`-prof-use(pass 2) -par-num-threads=1(pass 1) -ansi-alias`

Continued on next page

SPEC CINT2006 Result

NEC Corporation

Express5800/T120g (Intel Xeon E5-2697 v4)

SPECint2006 =   73.6

SPECint_base2006 =   71.0

CPU2006 license: 9006
Test sponsor: NEC Corporation
Tested by: NEC Corporation

Test date: Mar-2016
Hardware Availability: Apr-2016
Software Availability: Jan-2016

Peak Optimization Flags (Continued)

456.hmmer: basepeak = yes

458.sjeng: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
-par-num-threads=1(pass 1) -prof-use(pass 2) -unroll4

462.libquantum: basepeak = yes

464.h264ref: basepeak = yes

C++ benchmarks:

471.omnetpp: -xCORE-AVX2(pass 2) -prof-gen:threadsafe(pass 1)
-ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2)
-par-num-threads=1(pass 1) -prof-use(pass 2)
-opt-ra-region-strategy=block   -ansi-alias
-Wl,-z,muldefs -L/sh -lsmartheap

473.astar: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
-auto-p32 -Wl,-z,muldefs -L/sh -lsmartheap64

483.xalancbmk: -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
-ansi-alias -Wl,-z,muldefs -L/sh -lsmartheap

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-ic16.0-official-linux64.html
http://www.spec.org/cpu2006/flags/NEC-Platform-Settings-V1.2-120g-RevB.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic16.0-official-linux64.xml
http://www.spec.org/cpu2006/flags/NEC-Platform-Settings-V1.2-120g-RevB.xml

SPEC CINT2006 Result
Copyright 2006-2016 Standard Performance Evaluation Corporation

NEC Corporation

Express5800/T120g (Intel Xeon E5-2697 v4)

SPECint2006 =   73.6

SPECint_base2006 =   71.0

CPU2006 license: 9006
Test sponsor: NEC Corporation
Tested by: NEC Corporation

Test date: Mar-2016
Hardware Availability: Apr-2016
Software Availability: Jan-2016

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

Tested with SPEC CPU2006 v1.2.
Report generated on Thu Jun 30 13:12:57 2016 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 19 April 2016.