SPEC® CINT2006 Result
Copyright 2006-2015 Standard Performance Evaluation Corporation

NEC Corporation

Express5800/A2040c (Intel Xeon E7-4820 v3)

SPECint®_rate2006 = 1180

SPECint_rate_base2006 = 1150

CPU2006 license:	9006	**Test date:**	Jun-2015
Test sponsor:	NEC Corporation	**Hardware Availability:**	Jul-2015
Tested by:	NEC Corporation	**Software Availability:**	Mar-2015

SPECint_rate_base2006 = 1150

SPECint_rate2006 = 1180

Hardware

CPU Name:	Intel Xeon E7-4820 v3
CPU Characteristics:	
CPU MHz:	1900
FPU:	Integrated
CPU(s) enabled:	40 cores, 4 chips, 10 cores/chip, 2 threads/core
CPU(s) orderable:	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:	25 MB I+D on chip per chip
Other Cache:	None
Memory:	1 TB (64 x 16 GB 2Rx4 PC4-2133P-R, running at 1333 MHz)
Disk Subsystem:	3 x 300 GB SAS, 15000 RPM, RAID 0
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Server release 6.6 (Santiago) Kernel 2.6.32-504.12.2.el6.x86_64
Compiler:	C/C++: Version 14.0.3.174 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 Multi-Core V10.01

SPEC CINT2006 Result
Copyright 2006-2015 Standard Performance Evaluation Corporation

NEC Corporation

Express5800/A2040c (Intel Xeon E7-4820 v3)

SPECint_rate2006 =　　1180

SPECint_rate_base2006 =　1150

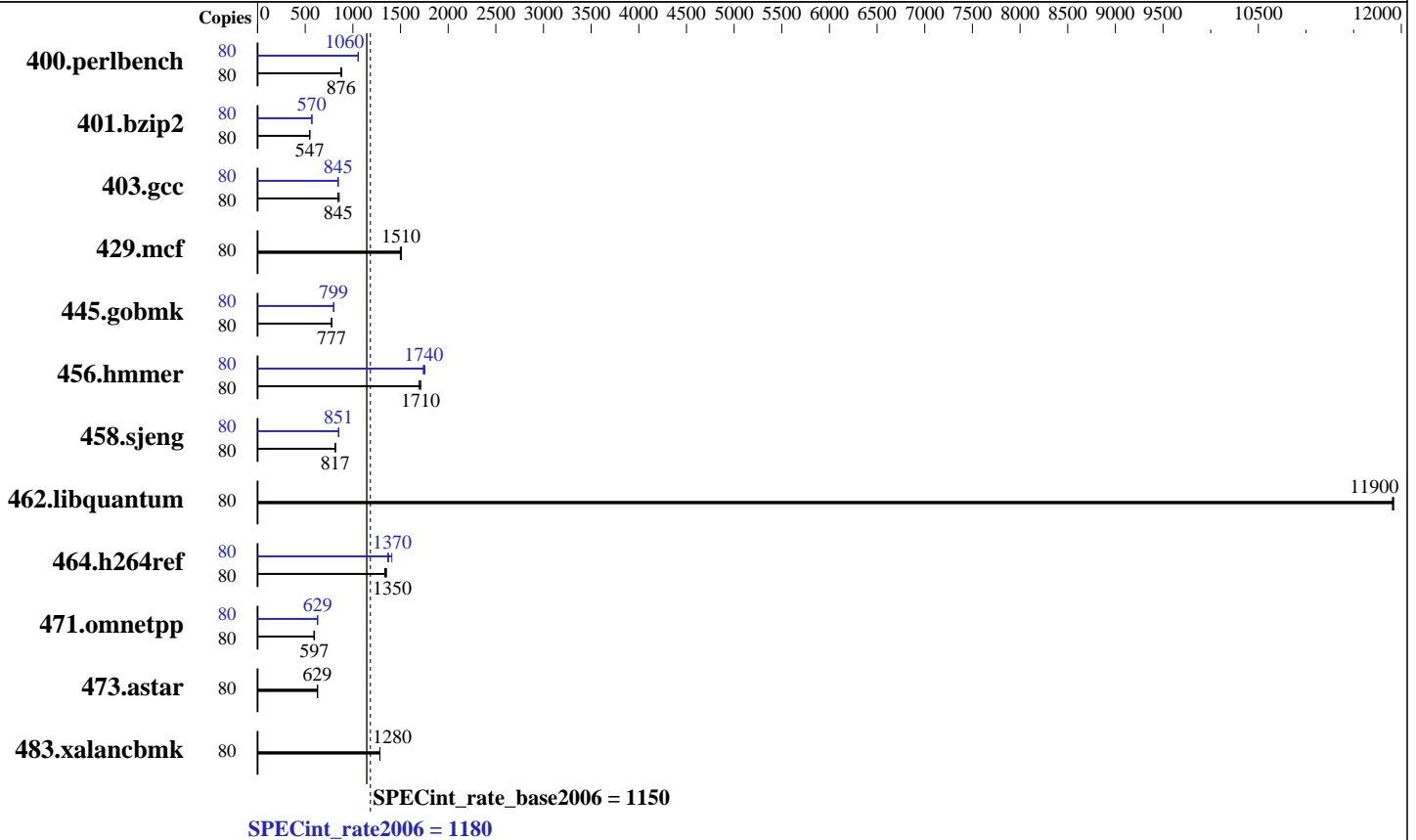**CPU2006 license:** 9006　　　　　　　　　　　　　　　　　　**Test date:**　　　　Jun-2015
Test sponsor:　NEC Corporation　　　　　　　　　　**Hardware Availability:** Jul-2015
Tested by:　　　NEC Corporation　　　　　　　　　　**Software Availability:** Mar-2015

Results Table

Benchmark	Copies	Base Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Peak Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	80	886	883	**892**	**876**	892	876	80	740	1060	740	1060	**740**	**1060**
401.bzip2	80	1414	546	**1411**	**547**	1408	548	80	1358	568	**1355**	**570**	1354	570
403.gcc	80	751	857	**762**	**845**	765	842	80	764	843	**762**	**845**	761	847
429.mcf	80	**485**	**1510**	487	1500	484	1510	80	**485**	**1510**	487	1500	484	1510
445.gobmk	80	**1080**	**777**	1080	777	1079	778	80	1052	798	1050	800	**1051**	**799**
456.hmmer	80	440	1690	436	1710	**436**	**1710**	80	**428**	**1740**	429	1740	425	1760
458.sjeng	80	1186	816	1185	817	**1186**	**817**	80	1139	850	1137	851	**1138**	**851**
462.libquantum	80	139	11900	139	11900	**139**	**11900**	80	139	11900	139	11900	**139**	**11900**
464.h264ref	80	1326	1340	1309	1350	**1315**	**1350**	80	1257	1410	**1288**	**1370**	1297	1370
471.omnetpp	80	**838**	**597**	837	597	846	591	80	793	631	797	627	**794**	**629**
473.astar	80	**893**	**629**	892	630	896	627	80	**893**	**629**	892	630	896	627
483.xalancbmk	80	430	1280	430	1280	**430**	**1280**	80	430	1280	430	1280	**430**	**1280**

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"
Zone reclaim mode enabled with:
echo 1 > /proc/sys/vm/zone_reclaim_mode

Platform Notes

　　BIOS Settings:
　Memory RAS Mode: Independent
　VT-x : Disabled
　Processor C6 Report : Disabled
　OS Performance Tuning : Disabled
　Energy Performance : Performance
　Patrol Scrub : Disabled
　Demand Scrub : Disabled
　Memory P.E. Retry : Disabled

SPEC CINT2006 Result

NEC Corporation

Express5800/A2040c (Intel Xeon E7-4820 v3)

SPECint_rate2006 =   1180

SPECint_rate_base2006 = 1150

CPU2006 license: 9006

Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Jun-2015

Hardware Availability: Jul-2015

Software Availability: Mar-2015

General Notes

Environment variables set by runspec before the start of the run:
LD_LIBRARY_PATH = "/opt/SmartHeap_10mc/lib:/opt/SmartHeap_10mc/lib64:/opt/intel/composer_xe_2013_sp1.3.174/compiler/lib/ia32:/opt/intel/composer_xe_2013_sp1.3.174/compiler/lib/intel64"

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>

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:
      -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
      -opt-mem-layout-trans=3

C++ benchmarks:
      -xCORE-AVX2 -ipo -O3 -no-prec-div -opt-prefetch
      -opt-mem-layout-trans=3 -Wl,-z,muldefs
      -L/opt/SmartHeap_10mc/lib -lsmartheap

Base Other Flags

C benchmarks:

      403.gcc: -Dalloca=_alloca

SPEC CINT2006 Result
Copyright 2006-2015 Standard Performance Evaluation Corporation

NEC Corporation

Express5800/A2040c (Intel Xeon E7-4820 v3)

SPECint_rate2006 = 1180

SPECint_rate_base2006 = 1150

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

Test date: Jun-2015
Hardware Availability: Jul-2015
Software Availability: Mar-2015

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
     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: -xCORE-AVX2(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: -xCORE-AVX2(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: -xCORE-AVX2 -ipo -O3 -no-prec-div

      429.mcf: basepeak = yes

    445.gobmk: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
          -ansi-alias -opt-mem-layout-trans=3

    456.hmmer: -xCORE-AVX2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32

     458.sjeng: -xCORE-AVX2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
          -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
          -unroll4 -auto-ilp32

Continued on next page

SPEC CINT2006 Result
Copyright 2006-2015 Standard Performance Evaluation Corporation

NEC Corporation

Express5800/A2040c (Intel Xeon E7-4820 v3)

SPECint_rate2006 =   1180

SPECint_rate_base2006 = 1150

Peak Optimization Flags (Continued)

462.libquantum: basepeak = yes

464.h264ref: -xCORE-AVX2(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: -xCORE-AVX2(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/opt/SmartHeap_10mc/lib -lsmartheap

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-ic14.0-official-linux64.20140128.html
http://www.spec.org/cpu2006/flags/NEC-platform-Settings-V1.2-A2040c-RevA.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64.20140128.xml
http://www.spec.org/cpu2006/flags/NEC-platform-Settings-V1.2-A2040c-RevA.xml

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 Tue Jul 14 16:21:31 2015 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 14 July 2015.