SPEC® CINT2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

Express5800/R120b-1
(Intel Xeon E5640)

SPECint®2006 = 34.5

SPECint_base2006 = 32.0

CPU2006 license: 9006	**Test date:** Aug-2010
Test sponsor: NEC Corporation	**Hardware Availability:** Sep-2010
Tested by: NEC Corporation	**Software Availability:** Dec-2009

Benchmark	base	peak
400.perlbench	23.5	26.6
401.bzip2	17.2	17.2
403.gcc	22.9	24.1
429.mcf	38.1	43.4
445.gobmk	21.2	23.3
456.hmmer	41.6	42.8
458.sjeng	22.6	23.6
462.libquantum	481	488
464.h264ref	32.2	35.4
471.omnetpp	19.4	24.8
473.astar	18.0	18.7
483.xalancbmk	30.6	31.7

SPECint_base2006 = 32.0

SPECint2006 = 34.5

Hardware

CPU Name:	Intel Xeon E5640
CPU Characteristics:	Intel Turbo Boost Technology up to 2.93 GHz
CPU MHz:	2667
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 4 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 PC3L-10600R, 2 rank, CL9, ECC, running at 1066 MHz)
Disk Subsystem:	1x160 GB SATA, 7200 RPM
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 11 (x86_64), Kernel 2.6.27.19-5-default
Compiler:	Intel C++ Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091130 Package ID: l_cproc_p_11.1.064
Auto Parallel:	Yes
File System:	ext3
System State:	Run level 3 (multi-user)
Base Pointers:	64-bit
Peak Pointers:	32/64-bit
Other Software:	Microquill SmartHeap V8.1

SPEC CINT2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

Express5800/R120b-1
(Intel Xeon E5640)

SPECint2006 = 34.5

SPECint_base2006 = 32.0

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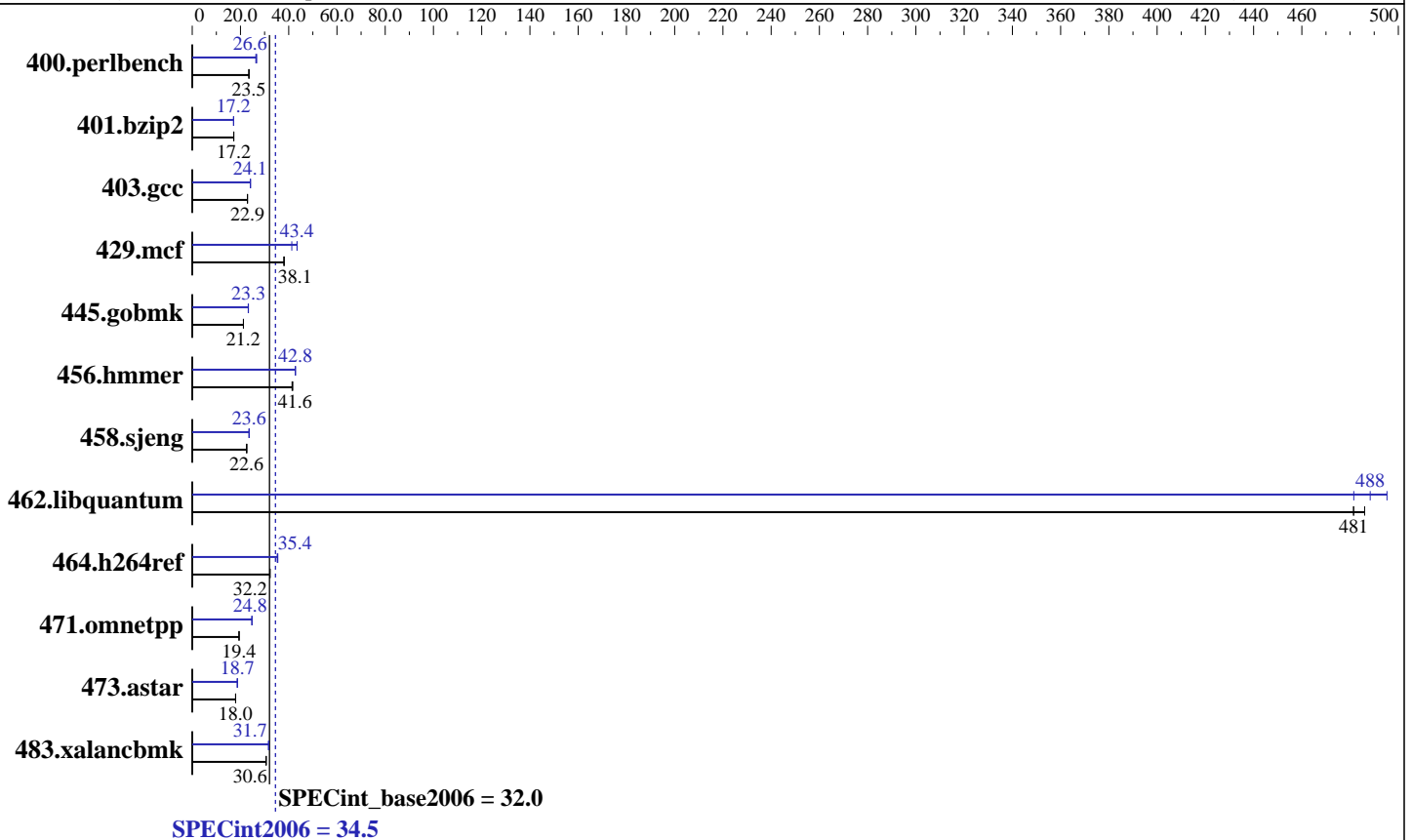**Test sponsor:** NEC Corporation
Tested by: NEC Corporation

Test date: Aug-2010
Hardware Availability: Sep-2010
Software Availability: Dec-2009

Results Table

Benchmark	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio
400.perlbench	415	23.5	416	23.5	**416**	**23.5**	367	26.7	370	26.4	**367**	**26.6**
401.bzip2	561	17.2	**560**	**17.2**	560	17.2	**563**	**17.2**	563	17.1	562	17.2
403.gcc	**352**	**22.9**	352	22.9	351	22.9	**334**	**24.1**	334	24.1	333	24.1
429.mcf	**240**	**38.1**	240	38.0	239	38.1	221	41.3	**210**	**43.4**	210	43.5
445.gobmk	495	21.2	494	21.2	**494**	**21.2**	450	23.3	452	23.2	**451**	**23.3**
456.hmmer	225	41.4	224	41.6	**224**	**41.6**	**218**	**42.8**	218	42.7	218	42.8
458.sjeng	537	22.5	**536**	**22.6**	535	22.6	513	23.6	513	23.6	**513**	**23.6**
462.libquantum	**43.0**	**481**	43.0	481	42.6	486	**42.4**	**488**	43.0	482	41.8	495
464.h264ref	**687**	**32.2**	688	32.2	686	32.3	**625**	**35.4**	624	35.5	628	35.2
471.omnetpp	**322**	**19.4**	322	19.4	322	19.4	**252**	**24.8**	252	24.8	252	24.8
473.astar	391	18.0	**390**	**18.0**	390	18.0	376	18.7	375	18.7	**375**	**18.7**
483.xalancbmk	225	30.6	225	30.6	**225**	**30.6**	218	31.6	**218**	**31.7**	217	31.7

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run

Platform Notes

    BIOS setting:
    Performance/Watt: Traditional
    Server Class: Custom
    Data Reuse Optimization: Disabled

General Notes

    OMP_NUM_THREADS set to number of cores
    KMP_AFFINITY set to granularity=fine,scatter
    The Express5800/R120b-1 and
    the Express5800/R120b-2 models are electronically equivalent.
    The results have been measured on the Express5800/R120b-1 model.

Base Compiler Invocation

C benchmarks:
     icc -m64

C++ benchmarks:
     icpc -m64

SPEC CINT2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

Express5800/R120b-1
(Intel Xeon E5640)

SPECint2006 =   34.5

SPECint_base2006 =   32.0

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

Test date: Aug-2010
Hardware Availability: Sep-2010
Software Availability: Dec-2009

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:
```
    -xSSE4.2 -ipo -O3 -no-prec-div -static -parallel -opt-prefetch
```

C++ benchmarks:
```
    -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
    -L/opt/SmartHeap_8.1/lib64 -lsmartheap64
```

Base Other Flags

C benchmarks:
```
    403.gcc: -Dalloca=_alloca
```

Peak Compiler Invocation

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

```
  400.perlbench: icc -m32
```

```
      429.mcf: icc -m32
```

```
    445.gobmk: icc -m32
```

```
    464.h264ref: icc -m32
```

C++ benchmarks (except as noted below):
```
    icpc -m32
```

Continued on next page

SPEC CINT2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

Express5800/R120b-1
(Intel Xeon E5640)

SPECint2006 = 34.5

SPECint_base2006 = 32.0

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

Test date: Aug-2010
Hardware Availability: Sep-2010
Software Availability: Dec-2009

Peak Compiler Invocation (Continued)

        473.astar: `icpc -m64`

Peak Portability Flags

     400.perlbench: `-DSPEC_CPU_LINUX_IA32`
        401.bzip2: `-DSPEC_CPU_LP64`
          403.gcc: `-DSPEC_CPU_LP64`
       456.hmmer: `-DSPEC_CPU_LP64`
        458.sjeng: `-DSPEC_CPU_LP64`
    462.libquantum: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX`
        473.astar: `-DSPEC_CPU_LP64`
    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) -static(pass 2)`
                    `-prof-use(pass 2) -ansi-alias -opt-prefetch`

        401.bzip2: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)`
                    `-O3(pass 2) -no-prec-div -static(pass 2) -prof-use(pass 2)`
                    `-auto-ilp32 -opt-prefetch -ansi-alias`

          403.gcc: `-xSSE4.2 -ipo -O3 -no-prec-div -static -inline-calloc`
                    `-opt-malloc-options=3 -auto-ilp32`

          429.mcf: `-xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch`

        445.gobmk: `-xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -O2`
                    `-ipo -no-prec-div -ansi-alias`

        456.hmmer: `-xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2`
                    `-ansi-alias -auto-ilp32`

        458.sjeng: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)`
                    `-O3(pass 2) -no-prec-div(pass 2) -static(pass 2)`
                    `-prof-use(pass 2) -unroll4`

    462.libquantum: `-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel`
                    `-opt-prefetch -par-schedule-static=32768 -ansi-alias`

       464.h264ref: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)`
                    `-O3(pass 2) -no-prec-div(pass 2) -static(pass 2)`
                    `-prof-use(pass 2) -unroll2 -ansi-alias`

SPEC CINT2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

Express5800/R120b-1
(Intel Xeon E5640)

SPECint2006 =   34.5

SPECint_base2006 =   32.0

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

Test date: Aug-2010
Hardware Availability: Sep-2010
Software Availability: Dec-2009

Peak Optimization Flags (Continued)

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/opt/SmartHeap_8.1/lib -lsmartheap`

473.astar: `-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=routine -Wl,-z,muldefs`
`-L/opt/SmartHeap_8.1/lib64 -lsmartheap64`

483.xalancbmk: `-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch`
`-Wl,-z,muldefs -L/opt/SmartHeap_8.1/lib -lsmartheap`

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-ic11.1-linux64-revE-R120b.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE-R120b.xml

SPEC and SPECint are registered trademarks of the Standard Performance
Evaluation Corporation. All other brand and product names appearing in
this result are trademarks or registered trademarks of their respective
holders.

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

Tested with SPEC CPU2006 v1.1.
Report generated on Wed Jul 23 10:17:07 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 14 September 2010.