SPEC® CINT2006 Result
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NEC Corporation

Express5800/120Ri-2
(Intel Xeon processor 5140)

SPECint®2006 = 17.3

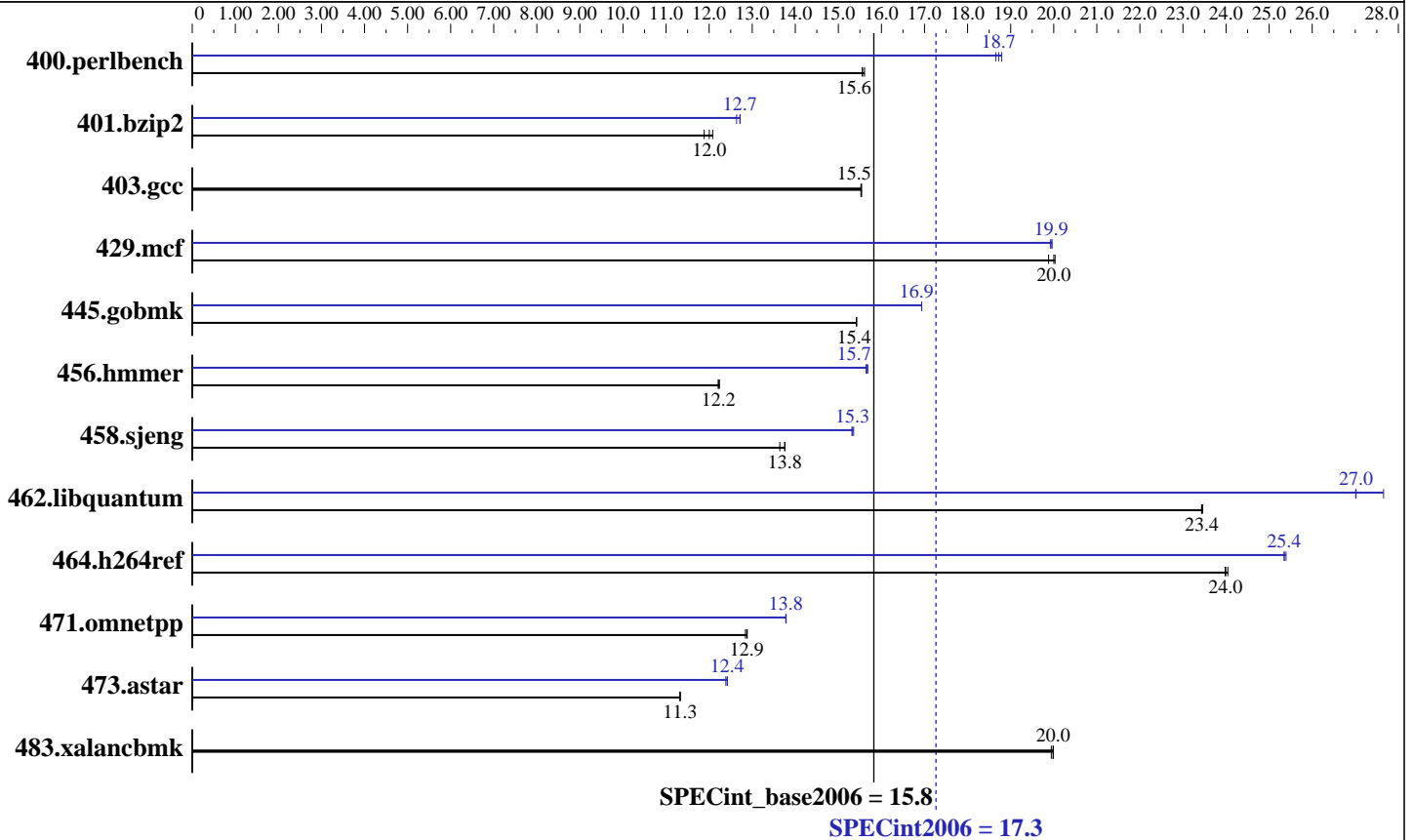SPECint_base2006 = 15.8

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

Test date: Jun-2007
Hardware Availability: May-2007
Software Availability: Jun-2007

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Benchmark	base	peak
400.perlbench	15.6	18.7
401.bzip2	12.0	12.7
403.gcc	15.5	
429.mcf	20.0	19.9
445.gobmk	15.4	16.9
456.hmmer	12.2	15.7
458.sjeng	13.8	15.3
462.libquantum	23.4	27.0
464.h264ref	24.0	25.4
471.omnetpp	12.9	13.8
473.astar	11.3	12.4
483.xalancbmk	20.0	

Hardware

CPU Name: Intel Xeon 5140
CPU Characteristics: 2.33 GHz, 4MB L2, 1333MHz bus
CPU MHz: 2333
FPU: Integrated
CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip
CPU(s) orderable: 1,2 chips
Primary Cache: 32 KB I + 32 KB D on chip per core
Secondary Cache: 4 MB I+D on chip per chip
L3 Cache: None
Other Cache: None
Memory: 8 GB (4x2 GB DDR2 5300F, 2 rank, CL5-5-5, ECC)
Disk Subsystem: 1x73.2 GB SAS, 15000RPM
Other Hardware: None

Software

Operating System: 64-Bit SUSE LINUX Enterprise Server 10, Kernel 2.6.16.21-0.8-smp for x86_64
Compiler: Intel C++ Compiler for IA32/EM64T application, Version 10.0 - Build 20070426 Package ID: l_cc_p_10.0.023
Auto Parallel: No
File System: ext2
System State: Multiuser, Runlevel 3
Base Pointers: 32-bit
Peak Pointers: 32/64-bit
Other Software: MicroQuill SmartHeap library 8.1 binutils-2.17.tar.gz, Version 2.17

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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	626	15.6	**628**	**15.6**	628	15.6	524	18.7	520	18.8	**522**	**18.7**
401.bzip2	812	11.9	**804**	**12.0**	799	12.1	**759**	**12.7**	764	12.6	759	12.7
403.gcc	**518**	**15.5**	519	15.5	518	15.5	**518**	**15.5**	519	15.5	518	15.5
429.mcf	**456**	**20.0**	459	19.9	455	20.0	457	20.0	458	19.9	**457**	**19.9**
445.gobmk	680	15.4	**680**	**15.4**	680	15.4	**619**	**16.9**	620	16.9	619	16.9
456.hmmer	764	12.2	**764**	**12.2**	762	12.2	**596**	**15.7**	596	15.6	595	15.7
458.sjeng	**880**	**13.8**	887	13.6	880	13.8	788	15.4	790	15.3	**789**	**15.3**
462.libquantum	**884**	**23.4**	884	23.4	883	23.5	749	27.7	767	27.0	**767**	**27.0**
464.h264ref	923	24.0	**922**	**24.0**	920	24.0	**873**	**25.4**	873	25.3	872	25.4
471.omnetpp	**485**	**12.9**	485	12.9	487	12.8	454	13.8	453	13.8	**453**	**13.8**
473.astar	620	11.3	**620**	**11.3**	620	11.3	567	12.4	565	12.4	**565**	**12.4**
483.xalancbmk	345	20.0	346	19.9	**345**	**20.0**	345	20.0	346	19.9	**345**	**20.0**

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

General Notes

All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hmmer,
for peak, are compiled in 64-bit mode

Base Compiler Invocation

C benchmarks:
    icc

C++ benchmarks:
    icpc

Base Portability Flags

    400.perlbench: -DSPEC_CPU_LINUX_IA32
    462.libquantum: -DSPEC_CPU_LINUX
    483.xalancbmk: -DSPEC_CPU_LINUX

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Base Optimization Flags

C benchmarks:
```
-fast
```

C++ benchmarks:
```
-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs
-L/opt/SmartHeap_8.1/lib -lsmartheap
```

Base Other Flags

C benchmarks:

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

Peak Compiler Invocation

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

```
401.bzip2: /opt/intel/cce/10.0.023/bin/icc
```

```
456.hmmer: /opt/intel/cce/10.0.023/bin/icc
```

C++ benchmarks:
```
icpc
```

Peak Portability Flags

```
400.perlbench: -DSPEC_CPU_LINUX_IA32
   401.bzip2: -DSPEC_CPU_LP64
   456.hmmer: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX
```

Peak Optimization Flags

C benchmarks:

```
400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -fast -ansi-alias
               -prefetch
```

```
   401.bzip2: -L/opt/intel/cce/10.0.023/lib -I/opt/intel/cce/10.0.023/include
              -prof-gen(pass 1) -prof-use(pass 2) -fast
```

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Peak Optimization Flags (Continued)

403.gcc: basepeak = yes

429.mcf: -fast -prefetch

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xT -O2 -ipo
-no-prec_div -ansi-alias

456.hmmer: -L/opt/intel/cce/10.0.023/lib -I/opt/intel/cce/10.0.023/include
-prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-ansi-alias

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4

462.libquantum: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4 -Ob0
-prefetch -opt-streaming-stores always

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2
-ansi-alias

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo
-no-prec_div -ansi-alias -Wl,-z,muldefs
-L/opt/SmartHeap_8.1/lib -lsmartheap

473.astar: Same as 471.omnetpp

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/NEC-ic10-linux-flags.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/NEC-ic10-linux-flags.xml

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