SPEC® CINT2006 Result

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NEC Corporation

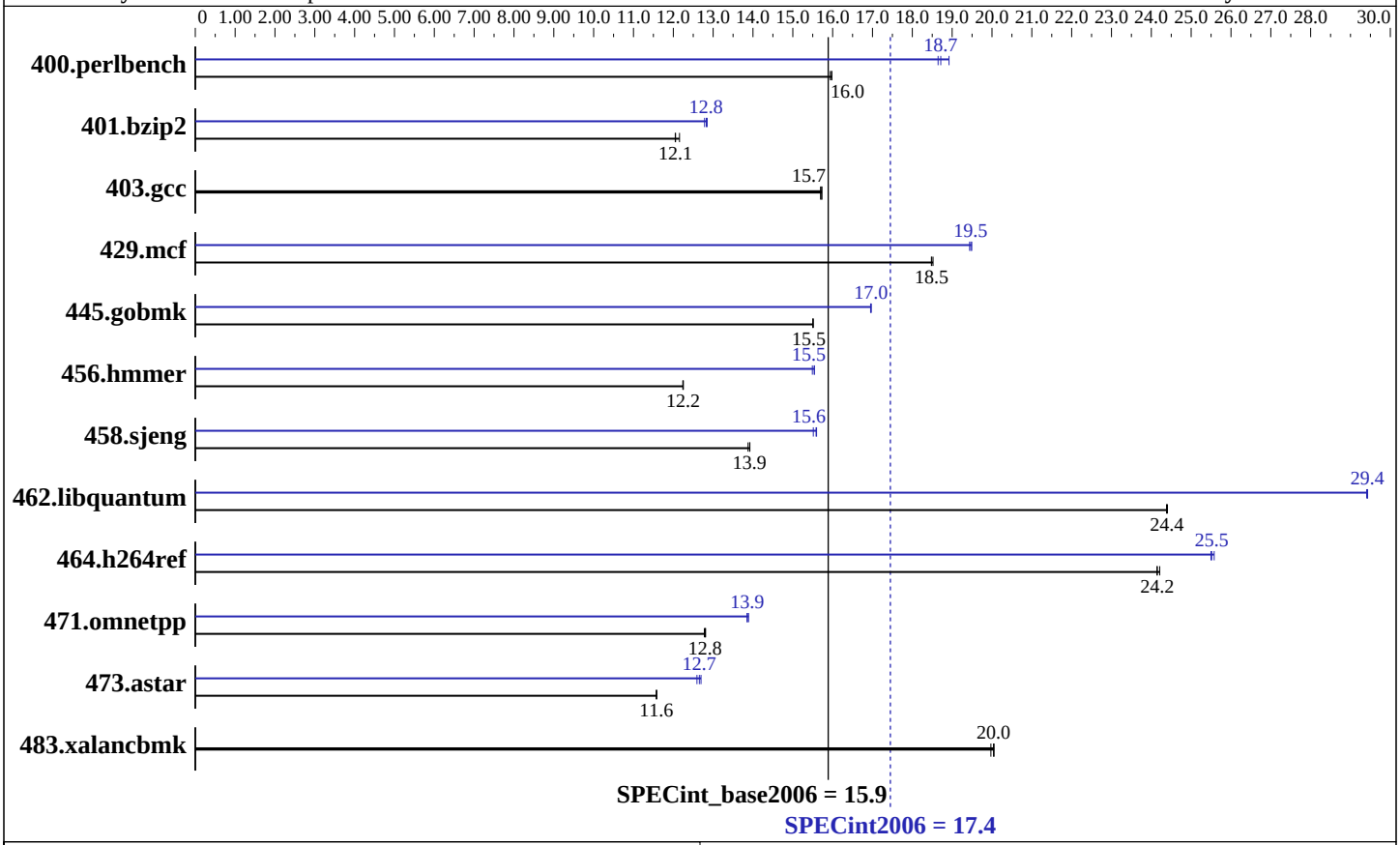
Express5800/i120Rg-1
(Intel Xeon processor 5148)

SPECint®2006 = 17.4

SPECint_base2006 = 15.9

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

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



Hardware

CPU Name:	Intel Xeon 5148
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	613	15.9	**612**	**16.0**	611	16.0	516	18.9	524	18.6	**522**	**18.7**
401.bzip2	**800**	**12.1**	794	12.2	801	12.0	**752**	**12.8**	755	12.8	751	12.8
403.gcc	513	15.7	**512**	**15.7**	512	15.7	513	15.7	**512**	**15.7**	512	15.7
429.mcf	**493**	**18.5**	494	18.5	492	18.5	468	19.5	**468**	**19.5**	469	19.4
445.gobmk	**676**	**15.5**	677	15.5	676	15.5	618	17.0	**618**	**17.0**	619	17.0
456.hmmer	**762**	**12.2**	762	12.3	762	12.2	600	15.5	**600**	**15.5**	602	15.5
458.sjeng	**869**	**13.9**	872	13.9	869	13.9	776	15.6	**776**	**15.6**	780	15.5
462.libquantum	849	24.4	**850**	**24.4**	850	24.4	704	29.4	705	29.4	**704**	**29.4**
464.h264ref	**916**	**24.2**	917	24.1	914	24.2	865	25.6	**867**	**25.5**	868	25.5
471.omnetpp	488	12.8	489	12.8	**488**	**12.8**	450	13.9	451	13.8	**451**	**13.9**
473.astar	606	11.6	**606**	**11.6**	607	11.6	553	12.7	557	12.6	**555**	**12.7**
483.xalancbmk	344	20.1	345	20.0	**344**	**20.0**	344	20.1	345	20.0	**344**	**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

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`

Continued on next page

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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