SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

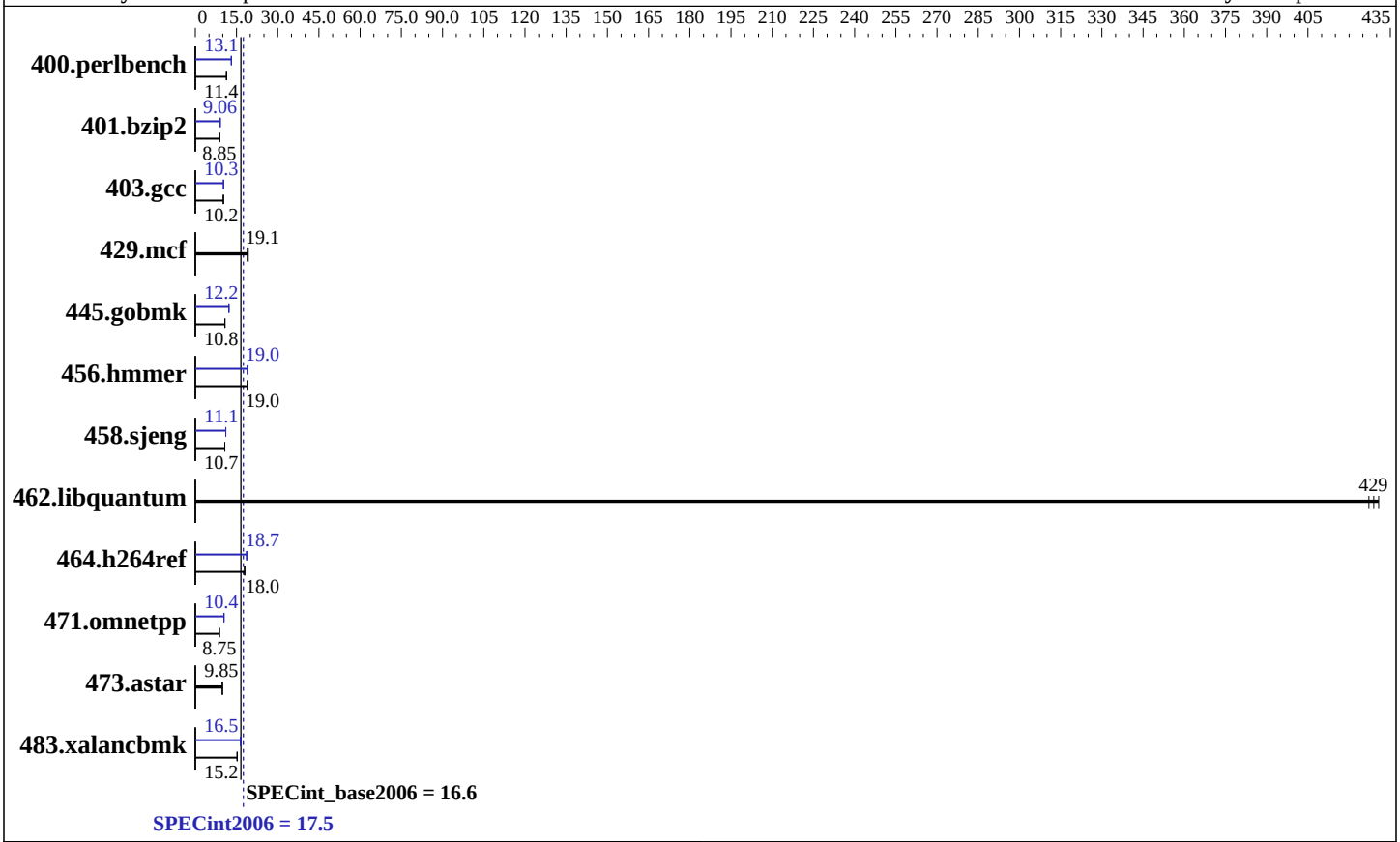
(A1SAi-2750F , Intel Atom C2750)

SPECint®2006 = 17.5

SPECint_base2006 = 16.6

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

Test date: Jun-2014
Hardware Availability: Dec-2013
Software Availability: Sep-2013



Hardware

CPU Name:	Intel Atom C2750
CPU Characteristics:	Intel Turbo Boost Technology up to 2.60 GHz
CPU MHz:	2400
FPU:	Integrated
CPU(s) enabled:	8 cores, 1 chip, 8 cores/chip
CPU(s) orderable:	1 chip
Primary Cache:	32 KB I + 24 KB D on chip per core
Secondary Cache:	4 MB I+D on chip per chip, 1 MB I+D shared / 2 cores
L3 Cache:	None
Other Cache:	None
Memory:	32 GB (4 x 8 GB 2Rx8 EP3L-12800E-11, ECC)
Disk Subsystem:	1 x 300 GB SATA II, 5000 RPM
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Server release 6.4 (Santiago) 2.6.32-358.el6.x86_64
Compiler:	C/C++: Version 14.0.0.080 of Intel C++ Studio XE for Linux; Fortran: Version 14.0.0.080 of Intel Fortran Studio XE for Linux
Auto Parallel:	Yes
File System:	ext4
System State:	Run level 3 (multi-user)
Base Pointers:	64-bit
Peak Pointers:	32/64-bit
Other Software:	None

SPEC CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Supermicro

(A1SAi-2750F , Intel Atom C2750)

SPECint2006 = 17.5

SPECint_base2006 = 16.6

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

Test date: Jun-2014
Hardware Availability: Dec-2013
Software Availability: Sep-2013

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	860	11.4	**860**	**11.4**	861	11.3	**745**	**13.1**	745	13.1	744	13.1
401.bzip2	1092	8.84	1089	8.86	**1090**	**8.85**	1065	9.06	1067	9.05	**1065**	**9.06**
403.gcc	**787**	**10.2**	790	10.2	786	10.2	**784**	**10.3**	783	10.3	785	10.3
429.mcf	482	18.9	473	19.3	**477**	**19.1**	482	18.9	473	19.3	**477**	**19.1**
445.gobmk	**974**	**10.8**	974	10.8	973	10.8	857	12.2	858	12.2	**857**	**12.2**
456.hmmer	491	19.0	**492**	**19.0**	492	19.0	**491**	**19.0**	491	19.0	492	19.0
458.sjeng	1127	10.7	1128	10.7	**1127**	**10.7**	1091	11.1	1090	11.1	**1090**	**11.1**
462.libquantum	**48.3**	**429**	48.1	431	48.5	427	**48.3**	**429**	48.1	431	48.5	427
464.h264ref	**1231**	**18.0**	1232	18.0	1231	18.0	**1183**	**18.7**	1184	18.7	1182	18.7
471.omnetpp	709	8.81	**715**	**8.75**	719	8.69	**598**	**10.4**	601	10.4	598	10.4
473.astar	713	9.84	711	9.87	**713**	**9.85**	713	9.84	711	9.87	**713**	**9.85**
483.xalancbmk	**453**	**15.2**	453	15.2	453	15.2	417	16.5	419	16.5	**418**	**16.5**

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

Operating System Notes

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

Platform Notes

```
Sysinfo program /home/cpu2006/config/sysinfo.rev6818
$Rev: 6818 $ $Date:: 2012-07-17 #$ e86d102572650a6e4d596a3cee98f191
running on localhost Thu Jun  5 06:21:59 2014

This section contains SUT (System Under Test) info as seen by
some common utilities.  To remove or add to this section, see:
  http://www.spec.org/cpu2006/Docs/config.html#sysinfo

From /proc/cpuinfo
   model name : Intel(R) Atom(TM) CPU C2750 @ 2.40GHz
      1 "physical id"s (chips)
      8 "processors"
   cores, siblings (Caution: counting these is hw and system dependent.  The
   following excerpts from /proc/cpuinfo might not be reliable.  Use with
   caution.)
      cpu cores : 8
      siblings  : 8
      physical 0: cores 0 1 2 3 4 5 6 7
   cache size : 1024 KB

From /proc/meminfo
   MemTotal:       32866396 kB
   HugePages_Total:       0
```

Continued on next page

Platform Notes (Continued)

```
      Hugepagesize:       2048 kB

   /usr/bin/lsb_release -d
      Red Hat Enterprise Linux Server release 6.4 (Santiago)

   From /etc/*release* /etc/*version*
      redhat-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
      system-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
      system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server

   uname -a:
      Linux localhost 2.6.32-358.el6.x86_64 #1 SMP Tue Jan 29 11:47:41 EST 2013
      x86_64 x86_64 x86_64 GNU/Linux

   run-level 3 Jun 3 02:47

   SPEC is set to: /home/cpu2006
      Filesystem     Type    Size  Used Avail Use% Mounted on
      /dev/mapper/VolGroup-lv_home
                     ext4    210G   35G  165G  18% /home

   Additional information from dmidecode:
     BIOS American Megatrends Inc. 1.0c 02/27/2014
     Memory:
      4x   8 GB
      2x Samsung M474B1G73BH0-YK0 8 GB 1600 MHz 1 rank
      2x Samsung M474B1G73BH0-YK0 8 GB 1600 MHz 2 rank

   (End of data from sysinfo program)
  System has 4x 8GB Samsung DIMMs installed.
  Memory info from dmidecode is displayed incorrectly.
  All four DIMMs should be 'Samsung M474B1G73BH0-YK0 8 GB 1600 MHz 2 rank'
```

General Notes

```
  Environment variables set by runspec before the start of the run:
  LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64:/home/cpu2006/sh"
  OMP_NUM_THREADS = "8"

   Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
   memory using RedHat EL 6.4
   Transparent Huge Pages enabled with:
   echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
   runspec command invoked through numactl i.e.:
   numactl --interleave=all runspec <etc>
```

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:
```
-xATOM_SSE4.2 -ipo -O3 -no-prec-div -parallel -opt-prefetch
-auto-p32
```

C++ benchmarks:
```
-xATOM_SSE4.2 -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
```

Continued on next page

Peak Compiler Invocation (Continued)

400.perlbench: `icc -m32`

445.gobmk: `icc -m32`

464.h264ref: `icc -m32`

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

473.astar: `icpc -m64`

Peak Portability Flags

400.perlbench: `-DSPEC_CPU_LINUX_IA32`
401.bzip2: `-DSPEC_CPU_LP64`
403.gcc: `-DSPEC_CPU_LP64`
429.mcf: `-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: `-xATOM_SSE4.2`(pass 2) `-prof-gen`(pass 1) `-ipo`(pass 2)
`-O3`(pass 2) `-no-prec-div`(pass 2) `-prof-use`(pass 2)
`-opt-prefetch -ansi-alias`

401.bzip2: `-xATOM_SSE4.2`(pass 2) `-prof-gen`(pass 1) `-ipo`(pass 2)
`-O3`(pass 2) `-no-prec-div -prof-use`(pass 2) `-auto-ilp32`
`-opt-prefetch -ansi-alias`

403.gcc: `-xATOM_SSE4.2 -ipo -O3 -no-prec-div -inline-calloc`
`-opt-malloc-options=3 -auto-ilp32`

429.mcf: `basepeak = yes`

445.gobmk: `-xATOM_SSE4.2`(pass 2) `-prof-gen`(pass 1) `-prof-use`(pass 2)
`-ansi-alias`

456.hmmer: `-xATOM_SSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32`
`-ansi-alias`

Continued on next page

Peak Optimization Flags (Continued)

458.sjeng: -xATOM_SSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll4

462.libquantum: basepeak = yes

464.h264ref: -xATOM_SSE4.2(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: -xATOM_SSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -opt-ra-region-strategy=block -ansi-alias -Wl,-z,muldefs -L/sh -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: -xATOM_SSE4.2 -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/Supermicro-Platform-Settings-V1.2-revD.html
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64-revC.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Supermicro-Platform-Settings-V1.2-revD.xml
http://www.spec.org/cpu2006/flags/Intel-ic14.0-official-linux64-revC.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 v1.2.
Report generated on Wed Aug 13 10:41:40 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 13 August 2014.