SPEC® CINT2006 Result

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Supermicro

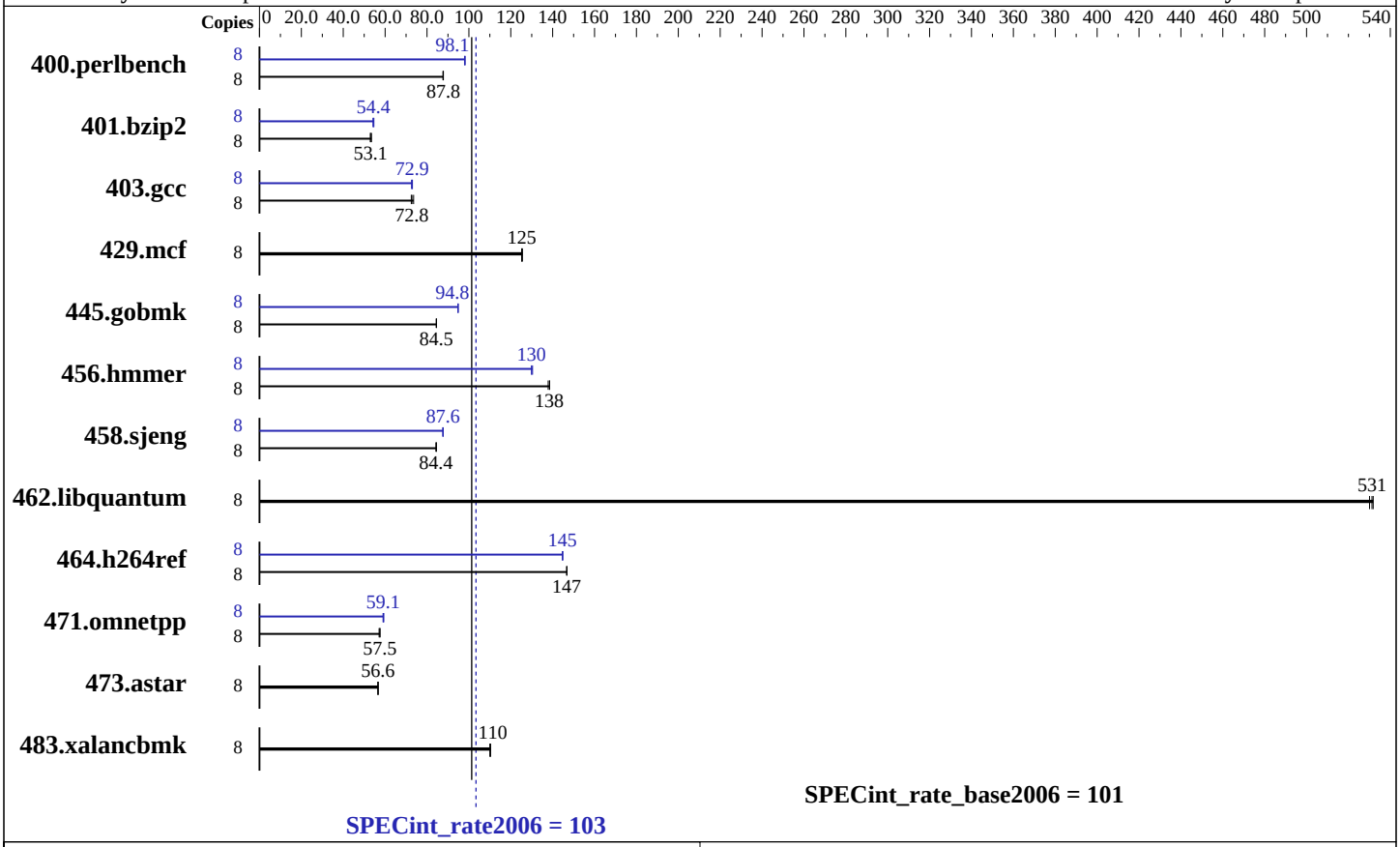
(A1SAi-2750F , Intel Atom C2750)

SPECint®_rate2006 = 103

SPECint_rate_base2006 = 101

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:	No
File System:	ext4
System State:	Run level 3 (multi-user)
Base Pointers:	64-bit
Peak Pointers:	32/64-bit
Other Software:	None

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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	8	892	87.6	890	87.8	**890**	**87.8**	8	796	98.2	**796**	**98.1**	798	97.9
401.bzip2	8	1457	53.0	1443	53.5	**1455**	**53.1**	8	**1419**	**54.4**	1424	54.2	1413	54.6
403.gcc	8	875	73.6	**884**	**72.8**	888	72.5	8	882	73.0	887	72.6	**884**	**72.9**
429.mcf	8	583	125	**582**	**125**	581	126	8	583	125	**582**	**125**	581	126
445.gobmk	8	993	84.5	**993**	**84.5**	994	84.4	8	**885**	**94.8**	885	94.8	884	94.9
456.hmmer	8	539	139	**539**	**138**	541	138	8	575	130	572	130	**574**	**130**
458.sjeng	8	**1147**	**84.4**	1147	84.4	1147	84.4	8	1106	87.5	1103	87.8	**1105**	**87.6**
462.libquantum	8	**312**	**531**	312	532	313	530	8	**312**	**531**	312	532	313	530
464.h264ref	8	1206	147	**1206**	**147**	1206	147	8	1224	145	**1224**	**145**	1222	145
471.omnetpp	8	869	57.6	**870**	**57.5**	875	57.1	8	847	59.0	**845**	**59.1**	842	59.4
473.astar	8	991	56.7	993	56.5	**992**	**56.6**	8	991	56.7	993	56.5	**992**	**56.6**
483.xalancbmk	8	**501**	**110**	500	110	502	110	8	**501**	**110**	500	110	502	110

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

Submit Notes

```
The config file option 'submit' was used.
```

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 Tue Jun  3 02:48:30 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
```

Continued on next page

Platform Notes (Continued)

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

  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
```

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:
```
-xATOM_SSE4.2 -ipo -O3 -no-prec-div -opt-prefetch
-opt-mem-layout-trans=3
```

C++ benchmarks:
```
-xATOM_SSE4.2 -ipo -O3 -no-prec-div -opt-prefetch
-opt-mem-layout-trans=3 -Wl,-z,muldefs -L/sh -lsmartheap
```

Base Other Flags

C benchmarks:

403.gcc: `-Dalloca=_alloca`

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`

Continued on next page

Peak Compiler Invocation (Continued)

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: -xATOM_SSE4.2(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: -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 -auto-ilp32 -ansi-alias

403.gcc: -xATOM_SSE4.2 -ipo -O3 -no-prec-div

429.mcf: basepeak = yes

445.gobmk: -xATOM_SSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -ansi-alias -opt-mem-layout-trans=3

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

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 -auto-ilp32

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:

Continued on next page

Peak Optimization Flags (Continued)

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) `-ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs -L/sh -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/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`

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