SPEC® CINT2006 Result

Hewlett-Packard Company

SPECint®_rate2006 =   126

ProLiant DL380 G7
(1.60 GHz, Intel Xeon E5603)

SPECint_rate_base2006 = 118

CPU2006 license: 3

Test sponsor: Hewlett-Packard Company

Tested by: Hewlett-Packard Company

Test date: Feb-2011

Hardware Availability: Feb-2011

Software Availability: Dec-2010

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Hardware

CPU Name:	Intel Xeon E5603
CPU Characteristics:	
CPU MHz:	1600
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 4 cores/chip
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:	4 MB I+D on chip per chip
Other Cache:	None
Memory:	96 GB (12 x 8 GB 2Rx4 PC3-10600R-9, ECC, running at 1067 MHz)
Disk Subsystem:	1 x 300 GB 10 K SAS
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 11 (x86_64) SP1, Kernel 2.6.32.12-0.7-default
Compiler:	Intel C++ Compiler XE for applications running on IA-32 Version 12.0.1.116 Build 20101116
Auto Parallel:	No
File System:	ext3
System State:	Run level 3 (multi-user)
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	Microquill SmartHeap V9.01

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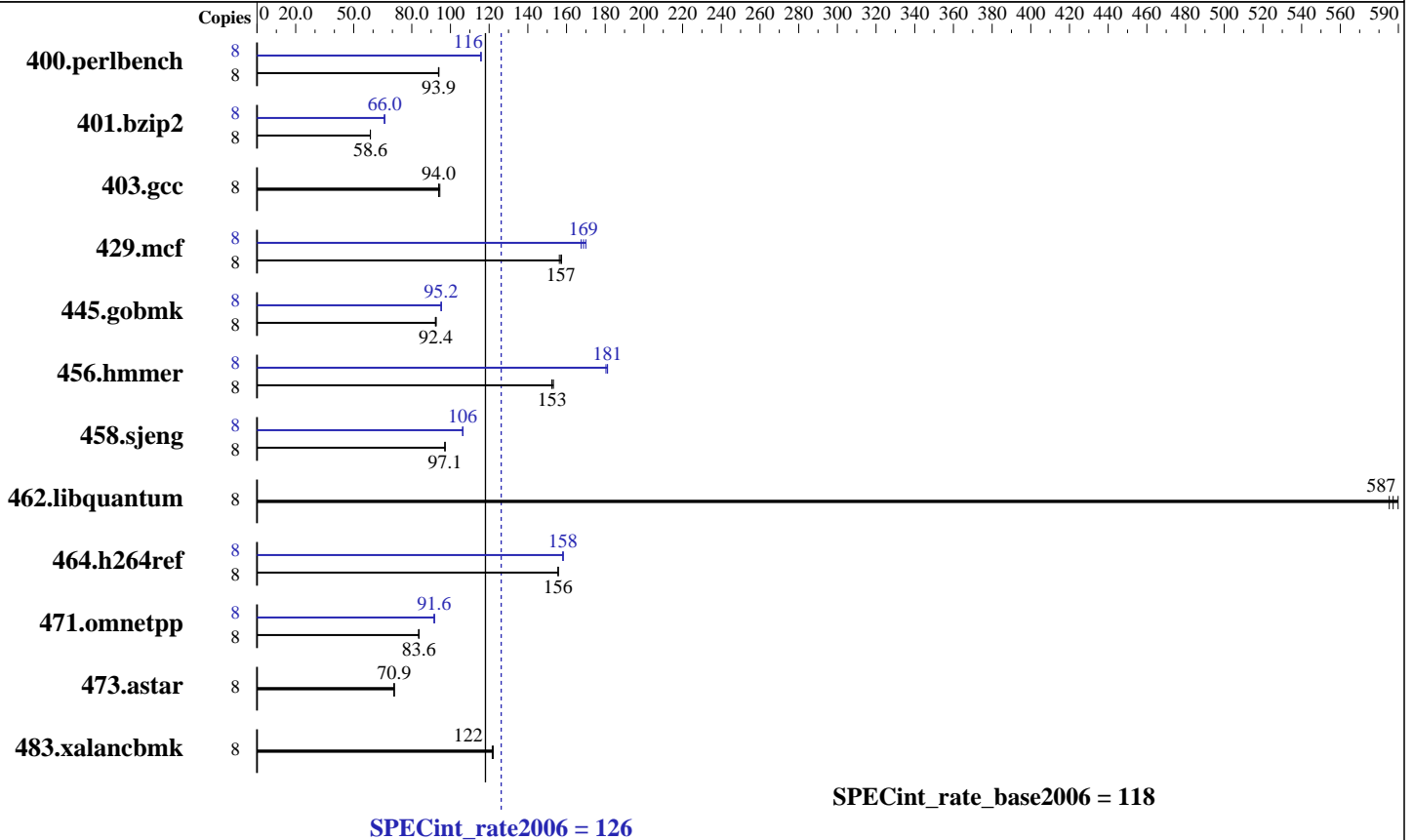
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Results Table

Benchmark		Base							Peak					
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	8	**832**	**93.9**	833	93.8	831	94.0	8	676	116	**675**	**116**	675	116
401.bzip2	8	**1318**	**58.6**	1318	58.6	1317	58.6	8	1170	66.0	1173	65.8	**1170**	**66.0**
403.gcc	8	681	94.5	686	93.9	**685**	**94.0**	8	681	94.5	686	93.9	**685**	**94.0**
429.mcf	8	467	156	**464**	**157**	463	157	8	435	168	**432**	**169**	429	170
445.gobmk	8	**908**	**92.4**	910	92.2	906	92.6	8	882	95.1	880	95.3	**881**	**95.2**
456.hmmer	8	490	152	487	153	**489**	**153**	8	**412**	**181**	412	181	414	180
458.sjeng	8	995	97.2	**997**	**97.1**	997	97.1	8	910	106	911	106	**910**	**106**
462.libquantum	8	283	585	281	590	**282**	**587**	8	283	585	281	590	**282**	**587**
464.h264ref	8	1137	156	1138	156	**1137**	**156**	8	1120	158	1118	158	**1119**	**158**
471.omnetpp	8	597	83.7	598	83.6	**598**	**83.6**	8	**546**	**91.6**	546	91.5	545	91.8
473.astar	8	**793**	**70.9**	793	70.8	791	71.0	8	**793**	**70.9**	793	70.8	791	71.0
483.xalancbmk	8	**452**	**122**	454	122	452	122	8	**452**	**122**	454	122	452	122

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.
    numactl was used to bind copies to the cores.

Operating System Notes

    'nodev   /mnt/hugepages   hugetlbfs   defaults   0 0' added to /etc/fstab
    'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
    echo 3600 > /proc/sys/vm/nr_hugepages
    export HUGETLB_MORECORE=yes
    export LD_PRELOAD=/usr/lib64/libhugetlbfs.so

Platform Notes

    BIOS configuration:
     HP Power Profile set to Maximum Performance
     Thermal Configuration set to Increased Cooling
     Data Reuse set to Disabled

General Notes

    Binaries were compiled on RHEL5.5

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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:
     -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch
     -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

C++ benchmarks:
     -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
     -L/smartheap -lsmartheap
     -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

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

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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: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
                -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

       401.bzip2: -xSSE4.2(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
                -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

         403.gcc: basepeak = yes

        429.mcf: -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 -auto-ilp32

      445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
                -ansi-alias -auto-ilp32

      456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
                -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

       458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
                -unroll4 -auto-ilp32
                -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

   462.libquantum: basepeak = yes

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

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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/smartheap -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/Intel-ic12.0-linux64-revB.html
http://www.spec.org/cpu2006/flags/HP-Intel-Linux-Settings-flags.20110316.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.xml
http://www.spec.org/cpu2006/flags/HP-Intel-Linux-Settings-flags.20110316.xml

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

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