SPEC® CINT2006 Result

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IBM Corporation

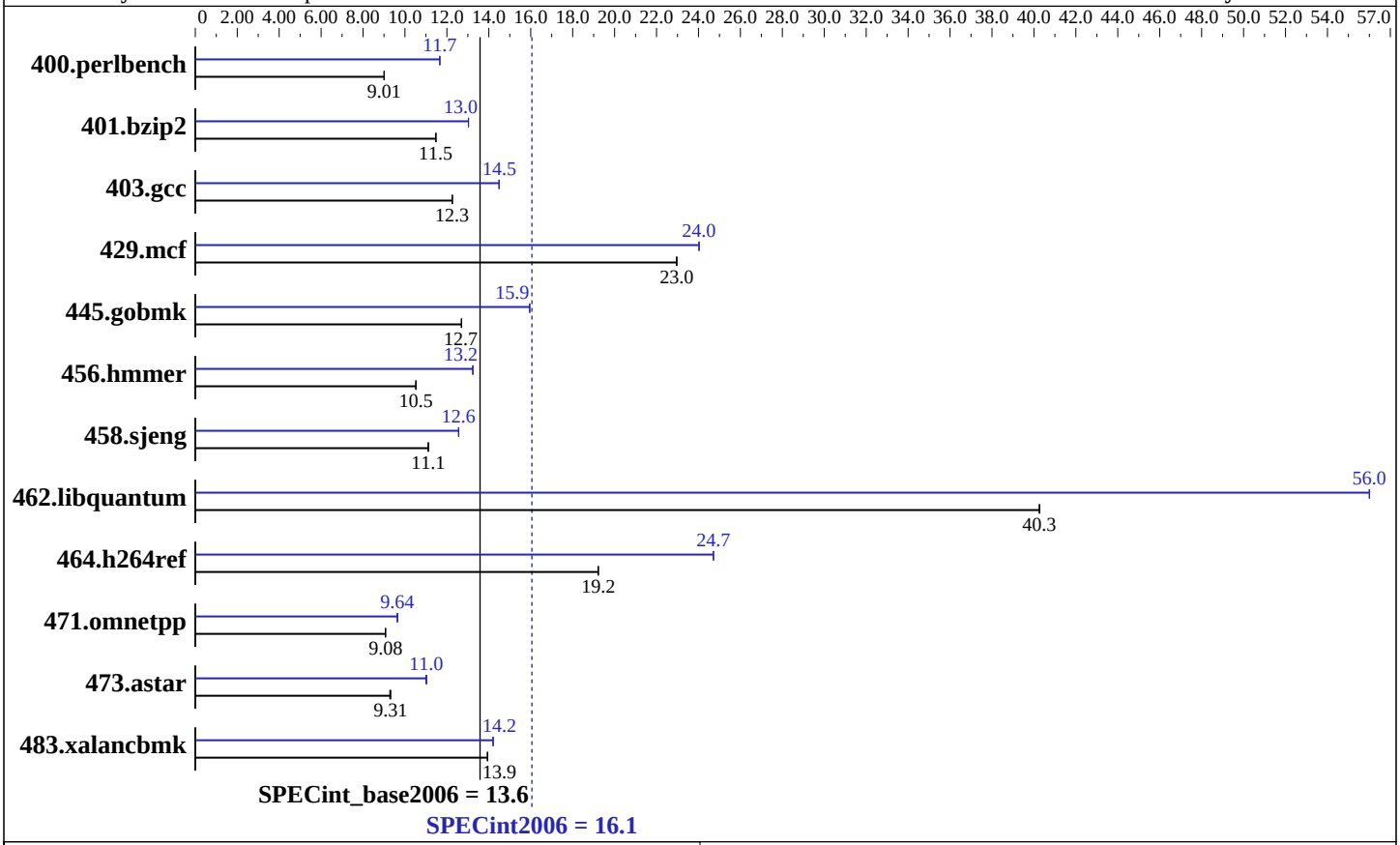
IBM BladeCenter JS12 Express (3.8 GHz, 1 core, RedHat)

SPECint®2006 = 16.1

SPECint_base2006 = 13.6

CPU2006 license: 11
Test sponsor: IBM Corporation
Tested by: IBM Corporation

Test date: Mar-2008
Hardware Availability: May-2008
Software Availability: Nov-2007



Hardware

CPU Name:	POWER6
CPU Characteristics:	
CPU MHz:	3800
FPU:	Integrated
CPU(s) enabled:	1 core, 1 chip, 2 cores/chip
CPU(s) orderable:	2 cores
Primary Cache:	64 KB I + 64 KB D on chip per core
Secondary Cache:	4 MB I+D on chip per core
L3 Cache:	None
Other Cache:	None
Memory:	32 GB (8x4 GB) DDR2 667 MHz
Disk Subsystem:	1x73 GB SAS 15K RPM
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Advanced Platform 5.1 for IBM POWER
Compiler:	IBM XL C/C++ Advanced Edition for Linux, V9.0
Auto Parallel:	No
File System:	ext3
System State:	Multi-User
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	-IBM Post-Link Optimization for Linux on POWER, Version 5.4.0-17 -MicroQuill SmartHeap 8.1

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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	1085	9.00	1084	9.01	**1085**	**9.01**	838	11.7	837	11.7	**838**	**11.7**
401.bzip2	841	11.5	841	11.5	**841**	**11.5**	741	13.0	**741**	**13.0**	740	13.0
403.gcc	657	12.3	657	12.3	**657**	**12.3**	556	14.5	**556**	**14.5**	555	14.5
429.mcf	397	23.0	**397**	**23.0**	397	23.0	380	24.0	380	24.0	**380**	**24.0**
445.gobmk	**826**	**12.7**	826	12.7	827	12.7	657	16.0	658	15.9	**658**	**15.9**
456.hmmer	887	10.5	887	10.5	**887**	**10.5**	705	13.2	705	13.2	**705**	**13.2**
458.sjeng	1089	11.1	1089	11.1	**1089**	**11.1**	964	12.6	963	12.6	**963**	**12.6**
462.libquantum	515	40.3	**515**	**40.3**	515	40.3	**370**	**56.0**	370	56.0	370	56.0
464.h264ref	**1151**	**19.2**	1151	19.2	1152	19.2	895	24.7	**895**	**24.7**	896	24.7
471.omnetpp	**688**	**9.08**	688	9.08	690	9.06	648	9.65	**648**	**9.64**	649	9.63
473.astar	753	9.32	**754**	**9.31**	757	9.28	638	11.0	**637**	**11.0**	636	11.0
483.xalancbmk	**495**	**13.9**	495	13.9	495	13.9	486	14.2	486	14.2	**486**	**14.2**

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

General Notes

```
kernel release 2.6.18-53.el5.

See flags file for details on following settings.

ulimit -s (stack) set to 262144.



Large pages reserved as follows by root user:
    echo 70 > /proc/sys/vm/nr_hugepages
System configured with libhugetlbfs library for application access to large pages
Environment variables set before executing benchmarks.
    export HUGETLB_VERBOSE=0
    export HUGETLB_MORECORE=yes
    export XLFRTEOPTS=intrinthds=1
Linux booted with the options:
       maxcpus=1 smt-enabled=off

IBM Post-Link Optimization tool used for
    400.perlbench 401.bzip2 403.gcc 429.mcf 445.gobmk 456.hmmer 458.sjeng
    462.libquantum 464.h264ref 473.astar 483.xalancbmk

Benchmarks bound to a processor using numactl on the submit command.
```

Base Compiler Invocation

C benchmarks:
```
xlc -qlanglvl=extc99
```

C++ benchmarks:
```
xlC
```

Base Portability Flags

400.perlbench: `-DSPEC_CPU_LINUX_PPC`
462.libquantum: `-DSPEC_CPU_LINUX`
464.h264ref: `-qchars=signed`
483.xalancbmk: `-DSPEC_CPU_LINUX`

Base Optimization Flags

C benchmarks:
```
-O5 -qalias=noansi -qalloca -lhugetlbfs
```

C++ benchmarks:
```
-O5 -qrtti -lsmartheap
```

Base Other Flags

C benchmarks:
```
-qipa=noobject -qipa=threads
```

C++ benchmarks:
```
-qipa=noobject -qipa=threads
```

Peak Compiler Invocation

C benchmarks:
```
xlc -qlanglvl=extc99
```

C++ benchmarks:
```
xlC
```

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_PPC
403.gcc: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX
464.h264ref: -qchars=signed
483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -Wl,-q -qpdf1(pass 1) -qpdf2(pass 2) -O4 -qalias=noansi -lsmartheap

401.bzip2: -Wl,-q -qpdf1(pass 1) -qpdf2(pass 2) -O4 -lhugetlbfs

403.gcc: -Wl,-q -qpdf1(pass 1) -qpdf2(pass 2) -O4 -qalloca -q64 -lhugetlbfs

429.mcf: -Wl,-q -O5 -qnoenablevmx -lhugetlbfs

445.gobmk: -Wl,-q -qpdf1(pass 1) -qpdf2(pass 2) -O4 -qnoenablevmx -lhugetlbfs

456.hmmer: Same as 401.bzip2

458.sjeng: Same as 401.bzip2

462.libquantum: -Wl,-q -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qnoenablevmx -q64 -lhugetlbfs

464.h264ref: -Wl,-q -qpdf1(pass 1) -qpdf2(pass 2) -O5 -q64 -lhugetlbfs

C++ benchmarks:

471.omnetpp: -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qrtti -lsmartheap

473.astar: -Wl,-q -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qnoenablevmx -lsmartheap

483.xalancbmk: -Wl,-q -O4 -lsmartheap

Peak Other Flags

C benchmarks:
-qipa=noobject -qipa=threads

Continued on next page

Peak Other Flags (Continued)

C++ benchmarks:
`-qipa=noobject -qipa=threads`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/IBM-Linux-XL.20090714.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/IBM-Linux-XL.20090714.xml`

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