SPEC® CINT2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation
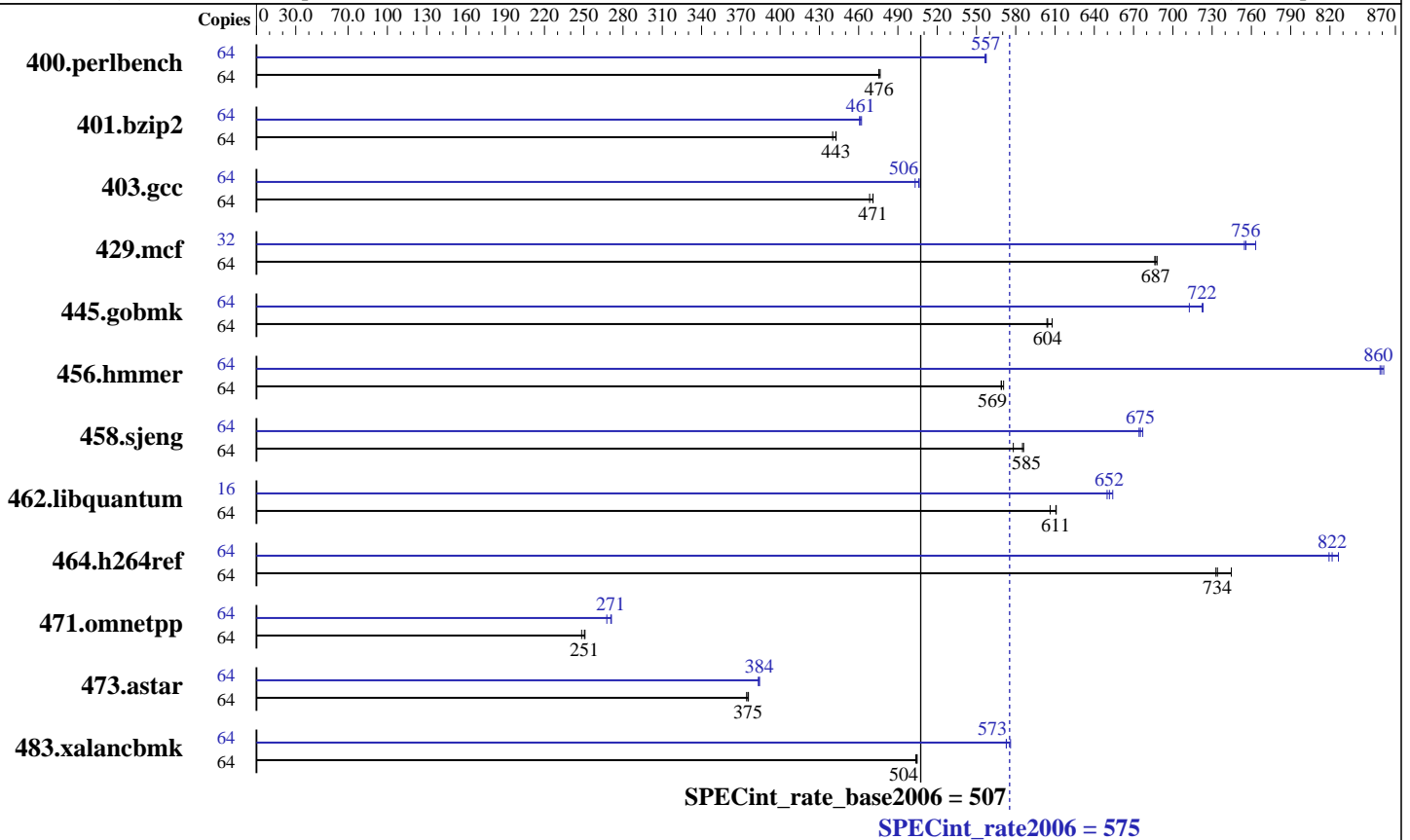
IBM Power 730 Express (3.55 GHz, 16 core)

SPECint®_rate2006 =   575

SPECint_rate_base2006 = 507

Benchmark	Copies	Base	Peak
400.perlbench	64 / 64	476	557
401.bzip2	64 / 64	443	461
403.gcc	64 / 64	471	506
429.mcf	32 / 64	687	756
445.gobmk	64 / 64	604	722
456.hmmer	64 / 64	569	860
458.sjeng	64 / 64	585	675
462.libquantum	16 / 64	611	652
464.h264ref	64 / 64	734	822
471.omnetpp	64 / 64	251	271
473.astar	64 / 64	375	384
483.xalancbmk	64 / 64	504	573

SPECint_rate_base2006 = 507
SPECint_rate2006 = 575

Hardware

CPU Name:	POWER7
CPU Characteristics:	Intelligent Energy Optimization enabled, up to 3.86 GHz
CPU MHz:	3556
FPU:	Integrated
CPU(s) enabled:	16 cores, 2 chips, 8 cores/chip, 4 threads/core
CPU(s) orderable:	16 cores
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 core
Other Cache:	None
Memory:	128 GB (16x8 GB) DDR3 1066 MHz
Disk Subsystem:	2x146.8 GB SAS SFF 15K RPM
Other Hardware:	None

Software

Operating System:	IBM AIX V7.1
Compiler:	IBM XL C/C++ for AIX, V11.1 Version: 11.01.0000.0002
Auto Parallel:	No
File System:	AIX/JFS2
System State:	Multi-user
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	None

SPEC CINT2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

IBM Power 730 Express (3.55 GHz, 16 core)

SPECint_rate2006 =   575

SPECint_rate_base2006 = 507

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

Test date: Aug-2010
Hardware Availability: Sep-2010
Software Availability: Sep-2010

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio		Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	64	1312	476	1315	475	**1315**	**476**		64	**1122**	**557**	1124	557	1122	557
401.bzip2	64	1403	440	1395	443	**1395**	**443**		64	1341	461	**1338**	**461**	1336	462
403.gcc	64	**1094**	**471**	1100	468	1094	471		64	**1018**	**506**	1018	506	1024	503
429.mcf	64	**850**	**687**	848	688	851	686		32	382	763	**386**	**756**	387	755
445.gobmk	64	**1111**	**604**	1105	608	1112	604		64	928	723	**929**	**722**	942	713
456.hmmer	64	1050	569	1046	571	**1049**	**569**		64	696	858	693	861	**695**	**860**
458.sjeng	64	1321	586	1339	578	**1323**	**585**		64	1144	677	1149	674	**1147**	**675**
462.libquantum	64	**2172**	**611**	2170	611	2187	606		16	507	654	**509**	**652**	510	650
464.h264ref	64	1902	745	**1929**	**734**	1932	733		64	1714	826	1729	819	**1724**	**822**
471.omnetpp	64	1594	251	**1597**	**251**	1610	248		64	**1478**	**271**	1475	271	1495	268
473.astar	64	1200	374	**1197**	**375**	1195	376		64	**1170**	**384**	1172	383	1169	384
483.xalancbmk	64	**876**	**504**	877	504	875	505		64	771	573	767	576	**771**	**573**

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

Peak Tuning Notes

```
fdpr binary optimization tool used for 401.bzip2
 with options -O4 -sdp 9 -rtb -vrox -nodp -m power7
fdpr binary optimization tool used for:
   403.gcc 429.mcf 445.gobmk 458.sjeng
 with options -O3 -m power7
fdpr binary optimization tool used for 456.hmmer
 with options -O3 -lu -1 -nodp -sdp 9 -m power7
fdpr binary optimization tool used for 462.libquantum
 with options -O4 -nodp -m power7
fdpr binary optimization tool used for 471.omnetpp
 with options -O4 -nodp -m power7 -vrox
fdpr binary optimization tool used for 473.astar
 with options -O4 -sdp 9 -vrox -dp -m power7
```

Submit Notes

```
The config file option 'submit' was used
to assign benchmark copy to specific kernel thread using
the "bindprocessor" command (see flags file for details).
```

Operating System Notes

```
Environment variables set by runspec before the start of the run:
  MALLOCOPTIONS = "pool"
  MEMORY_AFFINITY = "MCM"
  XLFRTEOPTS = "intrinthds=1"
```

SPEC CINT2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

IBM Power 730 Express (3.55 GHz, 16 core)

SPECint_rate2006 =   575

SPECint_rate_base2006 = 507

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

Test date: Aug-2010
Hardware Availability: Sep-2010
Software Availability: Sep-2010

Operating System Notes (Continued)

```
All ulimits set to unlimited.
12800 16M large pages defined with vmo command

See the flags file for details on settings.
```

Base Compiler Invocation

C benchmarks:
```
/usr/vac/bin/xlc -qlanglvl=extc99
```

C++ benchmarks:
```
/usr/vacpp/bin/xlC
```

Base Portability Flags

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

Base Optimization Flags

C benchmarks:
```
-qipa=threads -bmaxdata:0x50000000 -O5 -qlargepage -qsimd -qvecnvol
-D_ILS_MACROS -qalias=noansi -qalloca -blpdata
```

C++ benchmarks:
```
-qipa=threads -bmaxdata:0x20000000 -O5 -qlargepage -D_ILS_MACROS
-qrtti=all -D__IBM_FAST_SET_MAP_ITERATOR -blpdata
```

Base Other Flags

C benchmarks:
```
-qipa=noobject -qsuppress=1500-036
```

C++ benchmarks:
```
-qipa=noobject -qsuppress=1500-036
```

Peak Compiler Invocation

C benchmarks:
```
/usr/vac/bin/xlc -qlanglvl=extc99
```

Continued on next page

IBM Corporation

IBM Power 730 Express (3.55 GHz, 16 core)

SPECint_rate2006 =   575

SPECint_rate_base2006 = 507

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

Test date: Aug-2010
Hardware Availability: Sep-2010
Software Availability: Sep-2010

Peak Compiler Invocation (Continued)

C++ benchmarks:
```
/usr/vacpp/bin/xlC
```

Peak Portability Flags

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

Peak Optimization Flags

C benchmarks:

```
    400.perlbench: -qipa=threads -bmaxdata:0x50000000 -qpdf1(pass 1)
                   -qpdf2(pass 2) -O2 -qarch=auto -qtune=auto -D_ILS_MACROS
                   -qalias=noansi -blpdata -btextpsize:64K

        401.bzip2: -qipa=threads -bmaxdata:0x50000000 -qpdf1(pass 1)
                   -qpdf2(pass 2) -O5 -qsimd -qvecnvol -qlargepage
                   -D_ILS_MACROS -blpdata -btextpsize:64K

          403.gcc: -qipa=threads -bmaxdata:0x50000000 -qpdf1(pass 1)
                   -qpdf2(pass 2) -O3 -qarch=auto -qtune=auto -qlargepage
                   -D_ILS_MACROS -qalloca -blpdata -btextpsize:64K

          429.mcf: Same as 401.bzip2

        445.gobmk: -qipa=threads -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qsimd
                   -qvecnvol -qlargepage -D_ILS_MACROS -blpdata
                   -btextpsize:64K

        456.hmmer: -qipa=threads -O5 -qsimd -qvecnvol -qassert=refalign
                   -D_ILS_MACROS -blpdata -btextpsize:64K

        458.sjeng: -qipa=threads -qpdf1(pass 1) -qpdf2(pass 2) -O5
                   -D_ILS_MACROS -blpdata -btextpsize:64K

   462.libquantum: -O5 -q64 -qlargepage -D_ILS_MACROS -blpdata
                   -btextpsize:64K

      464.h264ref: -qipa=threads -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qsimd
                   -qvecnvol -D_ILS_MACROS -blpdata -btextpsize:64K
```

C++ benchmarks:

IBM Corporation

IBM Power 730 Express (3.55 GHz, 16 core)

SPECint_rate2006 =　575

SPECint_rate_base2006 =　507

Peak Optimization Flags (Continued)

```
471.omnetpp: -qipa=threads -bmaxdata:0x20000000 -qpdf1(pass 1)
             -qpdf2(pass 2) -O4 -D_ILS_MACROS -qalign=natural
             -qrtti=all -qinlglue -D__IBM_FAST_SET_MAP_ITERATOR
             -blpdata -btextpsize:64K

    473.astar: -qipa=threads -bmaxdata:0x20000000 -qpdf1(pass 1)
             -qpdf2(pass 2) -O4 -qlargepage -D_ILS_MACROS -qinlglue
             -qalign=natural -blpdata -btextpsize:64K

483.xalancbmk: -qipa=threads -bmaxdata:0x20000000 -qpdf1(pass 1)
             -qpdf2(pass 2) -O4 -qsimd -qvecnvol -qarch=pwr5
             -qtune=pwr5 -qlargepage -D_ILS_MACROS -qinlglue
             -D__IBM_FAST_VECTOR -blpdata -btextpsize:64K
```

Peak Other Flags

C benchmarks (except as noted below):
```
    -qipa=noobject -qsuppress=1500-036
```

```
    400.perlbench: -qsuppress=1500-036

         403.gcc: -qsuppress=1500-036

    462.libquantum: -qsuppress=1500-036
```

C++ benchmarks (except as noted below):
```
    -qipa=noobject -qsuppress=1500-036
```

```
    471.omnetpp: -qsuppress=1500-036
```

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/IBM-XL.20100901.html
http://www.spec.org/cpu2006/flags/IBM-AIX.20100303.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/IBM-XL.20100901.xml
http://www.spec.org/cpu2006/flags/IBM-AIX.20100303.xml

SPEC CINT2006 Result
Copyright 2006-2014 Standard Performance Evaluation Corporation

IBM Corporation

IBM Power 730 Express (3.55 GHz, 16 core)

SPECint_rate2006 =   575

SPECint_rate_base2006 = 507

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

Tested with SPEC CPU2006 v1.1.
Report generated on Wed Jul 23 12:24:06 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 31 August 2010.