



# CINT2000 Result

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## IBM Corporation

IBM IntelliStation POWER 285 Workstation (1900 MHz, 1 CPU)

SPECint2000 = 1512

SPECint\_base2000 = 1469

SPEC license #: 11 | Tested by: IBM | Test date: Sep-2005 | Hardware Avail: Oct-2005 | Software Avail: Oct-2005

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	
164.gzip	1400	163	861	163	861	
175.vpr	1400	112	1249	112	1247	
176.gcc	1100	70.7	1556	70.7	1556	
181.mcf	1800	59.0	3049	54.3	3316	
186.crafty	1000	85.0	1176	85.0	1176	
197.parser	1800	137	1315	137	1316	
252.eon	1300	82.9	1568	80.0	1624	
253.perlbnk	1800	172	1049	158	1138	
254.gap	1100	82.9	1327	82.9	1327	
255.vortex	1900	75.6	2515	70.6	2691	
256.bzip2	1500	106	1411	101	1483	
300.twolf	3000	182	1651	176	1703	

### Hardware

CPU: POWER5+  
CPU MHz: 1900  
FPU: Integrated  
CPU(s) enabled: 1 core, 1 chip, 2 cores/chip (SMT off)  
CPU(s) orderable: 1,2  
Parallel: None  
Primary Cache: 64KBI+32KBD (on chip)/core  
Secondary Cache: 1920KB unified (on chip)/chip  
L3 Cache: 36MB unified (off-chip)/DCM, 1 DCM/SUT  
Other Cache: None  
Memory: 8x2GB  
Disk Subsystem: 1x73GB SCSI, 15K RPM  
Other Hardware: None

### Software

Operating System: AIX 5L V5.3  
Compiler: XL C/C++ Enterprise Edition Version 8.0 for AIX  
File System: AIX/JFS2  
System State: Multi-user

## Notes/Tuning Information

### Portability Flags:

```
176.gcc: -ma -DHOST_WORDS_BIG_ENDIAN
186.crafty: -DAIX
252.eon: srcalt=fmax_errno
253.perlbnk: -DSPEC_CPU2000_AIX
254.gap: -DSYS_IS_BSD -DSYS_STRING_H
          -DSYS_HAS_MALLOC_PROTO -DSYS_HAS_CALLOC_PROTO
300.twolf: -DHAVE_SIGNED_CHAR
```

### Base Optimization Flags:

```
C: -qpdf1/pdf2
   -O5 -blpdata -D_ILS_MACROS
C++: -qpdf1/pdf2
      -O5 -lhm -qalign=natural
```

### Peak Optimization Flags

```
164.gzip: basepeak=1
175.vpr: -qpdf1/pdf2
         -O5 -lhm -blpdata -D_ILS_MACROS
176.gcc: basepeak=1
```



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## Notes/Tuning Information (Continued)

```

181.mcf:      -O5 -blpdata -qfdpr
              fdpr -q -O3
186.crafty:   basepeak=1
197.parser:   -qpdf1/pdf2
              -O5 -blpdata -D_ILS_MACROS
252.eon:      -qpdf1/pdf2
              -O4 -qarch=pwr4 -qtune=pwr4 -qalign=natural -D_ILS_MACROS
253.perlbnk:  -qpdf1/pdf2
              -O5 -lhmu -qalign=natural -blpdata -D_ILS_MACROS
254.gap:      basepeak=1
255.vortex:   -qpdf1/pdf2
              -O5 -lhmu -blpdata
256.bzip2:    -O5 -blpdata -qfdpr -D_ILS_MACROS
              fdpr -q -O3
300.twolf:    -O5 -blpdata -qfdpr -D_ILS_MACROS
              fdpr -q -O3

```

Approved alternate-source file 252.eon.fmax\_errno.src.alt.tar.gz was used with 252.eon for POSIX-compatibility.

The installed OS level is AIX 5L for POWER version 5.3 with the 5300-03 Recommended Maintenance package.

SMT: Acronym for "Simultaneous Multi-Threading". A processor technology that allows the simultaneous execution of multiple thread contexts within a single processor core. (Enabled by default)

DCM: Acronym for "Dual-Chip Module" (one dual-core processor chip + one L3-cache chip)

SUT: Acronym for "System Under Test"

```

Extended C:   IBM XL C for AIX invoked as cc
ANSI C89:     IBM XL C for AIX invoked as xlc
C++:         IBM XL C for AIX invoked as xlc

```

ulimits set to unlimited.

Large page mode and memory affinity were set as follows:

```

vmo -r -o lpgg_regions=400 -o lpgg_size=16777216
chuser capabilities=CAP_BYPASS_RAC_VMM,CAP_PROPAGATE $USER
reboot -q
export MEMORY_AFFINITY=MCM

```

The following config-file entry was used to assign each benchmark process to a core:

```

submit = let "MYCPU=2*\$SPECUSERNUM"; if ((("\$MYCPU > 3")) then let "MYCPU=3"; fi; bindprocessor \$\$ \$MYCPU; $command

```

The "bindprocessor" AIX command binds a process to a CPU core.

One core was deconfigured and SMT disabled at the open-firmware prompt, using the command

```

boot -s cpu=1 -s smt_off

```

Use flags-description file IBM-20051013-AIX.txt.