CFP2000 Result

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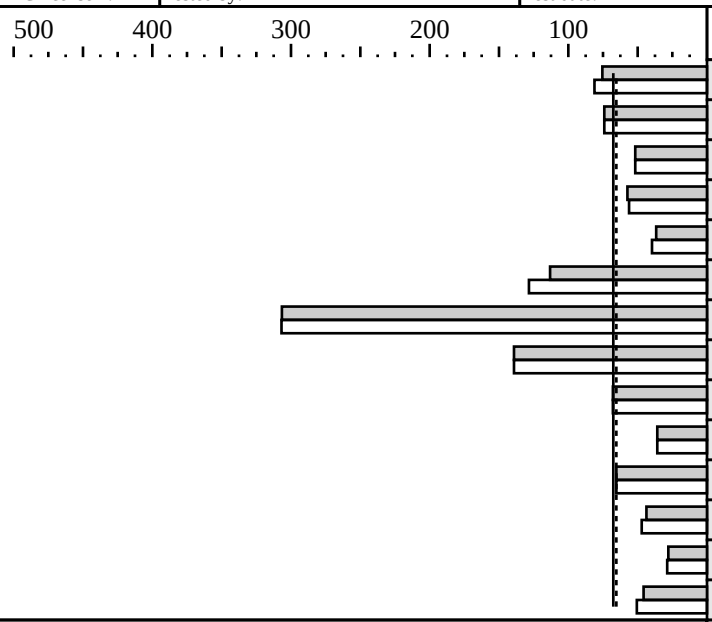
IBM Corporation

IBM IntelliStation POWER 285 Workstation (1900 MHz, 2 CPU)

SPECfp_rate2000 = 67.6

SPECfp_rate_base2000 = 65.4

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



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	4	98.4	75.5	4	91.5	81.2
171.swim	4	194	74.1	4	194	74.1
172.mgrid	4	161	51.7	4	161	51.7
173.applu	4	170	57.4	4	173	56.2
177.mesa	4	177	36.6	4	164	39.7
178.galgel	4	119	113	4	105	128
179.art	4	39.4	307	4	39.3	307
183.equake	4	43.3	139	4	43.3	139
187.facerec	4	130	67.8	4	130	67.8
188.ammp	4	285	35.8	4	285	35.8
189.lucas	4	142	65.4	4	142	65.4
191.fma3d	4	223	43.7	4	207	47.1
200.sixtrack	4	183	27.9	4	178	28.7
301.apsi	4	264	45.7	4	238	50.6

Hardware

CPU:	POWER5+
CPU MHz:	1900
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 cores/chip (SMT on)
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 XL Fortran Enterprise Edition Version 10.1 for AIX Other Software: ESSL 4.2.0.2
File System:	AIX/JFS2
System State:	Multi-user

Notes/Tuning Information

```
Portability Flags:
     -qfixed used in:        168.wupwise, 171.swim, 172.mgrid, 173.applu,
                             178.galgel, 200.sixtrack, 301.apsi
     -qsuffix=f=f90 used in: 178.galgel, 187.facerec, 189.lucas, 191.fma3d

Base Optimization Flags:
  Fortran:    -O5 -lhmu -blpdata -lmass
  C:          -qpdf1/pdf2
              -O5 -blpdata -qalign=natural

Peak Optimization Flags
  168.wupwise:  -qpdf1/pdf2
                -O5 -blpdata -qfdpr -qalign=struct=natural
                fdpr -q -O3
  171.swim:     basepeak=1
  172.mgrid:    basepeak=1
  173.applu:    -O5 -blpdata -lmass
```

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Notes/Tuning Information (Continued)

```
  177.mesa:      -qpdf1/pdf2
                 -O5 -blpdata -qalign=natural -Dfloor=__floor
  178.galgel:    -O5 -blpdata -qessl -lessl
  179.art:       -qpdf1/pdf2
                 -O5 -blpdata -qhot=arraypad -Q -qalign=natural
  183.equake:    basepeak=1
  187.facerec:   basepeak=1
  188.ammp:      basepeak=1
  189.lucas:     basepeak=1
  191.fma3d:     -qpdf1/pdf2
                 -O5 -blpdata -qfdpr -qalign=struct=natural
                 fdpr -q -O3
  200.sixtrack:  -qpdf1/pdf2
                 -O5 -blpdata -qfdpr -qalign=struct=natural
                 fdpr -q -O3
  301.apsi:      -O5 -lmass -qessl -lessl -blpdata -qsave
```

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"
ESSL: Engineering and Scientific Subroutine Library

Extended C: IBM XL C for AIX invoked as cc
ANSI C89: IBM XL C for AIX invoked as xlc
Fortran 77: IBM XL Fortran for AIX invoked as xlf90 unless explicitly reassigned
Fortran 90: IBM XL Fortran for AIX invoked as xlf

ulimits set to unlimited.
Large page mode and memory affinity were set as follows:

```
    vmo -r -o lgpg_regions=400 -o lgpg_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.

Use flags-description file IBM-20050919-AIX.txt.