CFP2000 Result

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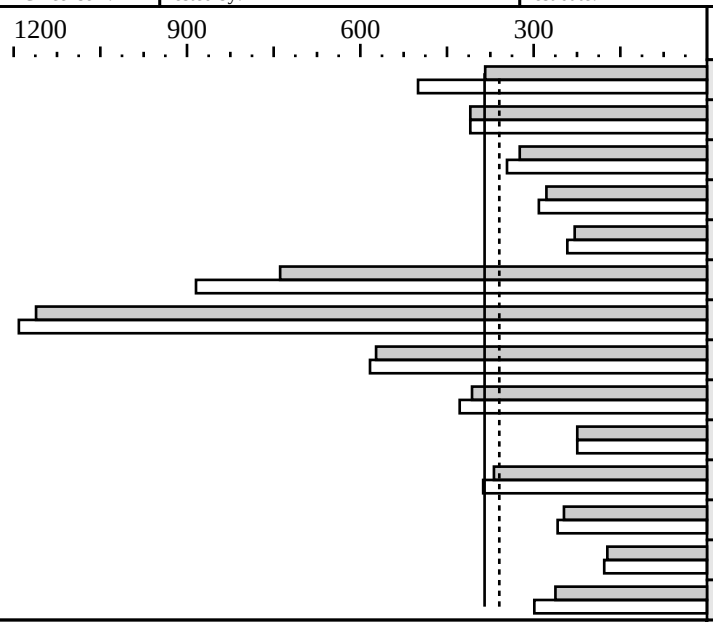
IBM Corporation

IBM eServer p5 575 (1500 MHz, 16 CPU)

SPECfp_rate2000 = 385

SPECfp_rate_base2000 = 359

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



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	32	155	384	32	119	500
171.swim	32	281	410	32	281	410
172.mgrid	32	206	324	16	96.5	346
173.applu	32	280	278	32	268	291
177.mesa	32	227	229	32	215	242
178.galgel	32	146	739	16	60.9	884
179.art	32	83.1	1161	16	40.5	1191
183.equake	32	84.3	573	16	41.4	583
187.facerec	32	173	407	32	165	428
188.ammp	32	364	225	32	364	225
189.lucas	32	201	369	16	95.8	387
191.fma3d	32	315	248	32	302	259
200.sixtrack	32	237	172	32	230	178
301.apsi	32	368	262	32	323	299

Hardware

CPU:	POWER5
CPU MHz:	1500
FPU:	Integrated
CPU(s) enabled:	16 cores, 8 chips, 2 cores/chip (SMT on)
CPU(s) orderable:	16
Parallel:	No
Primary Cache:	64KBI+32KBD (on chip)/core
Secondary Cache:	1920KB unified (on chip)/chip
L3 Cache:	36MB unified (off-chip)/DCM, 8 DCM/SUT
Other Cache:	None
Memory:	64x1GB
Disk Subsystem:	2x36GB SCSI, 15K RPM
Other Hardware:	None

Software

Operating System:	AIX 5L V5.3
Compiler:	XL C/C++ Enterprise Edition Version 7.0 for AIX XL Fortran Enterprise Edition V9.1 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 -blpdata -lmass
  C:          -qpdf1/pdf2
              -O5 -blpdata -qalign=natural

Peak Optimization Flags
  168.wupwise:  F77=xlf90
                -q64 -O5 -lmass -qalign=struct=natural -qfdpr
                fdpr -q -O3
  171.swim:     basepeak=1
  172.mgrid:    -O5 -lmass -qessl -lessl -blpdata -qsave
                users=16
```

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Notes/Tuning Information (Continued)

```
  173.applu:    F77=xlf90
               -q64 -O5 -qarch=pwr3 -qtune=pwr3 -blpdata -lmass -qalign=struct=natural -qfdpr
                fdpr -q -O3
  177.mesa:     -qpdf1/pdf2
                -O3 -qarch=auto -qtune=auto -qipa=level=2
  178.galgel:   -O5 -blpdata -lmass -qessl -lessl -qfdpr
                fdpr -q -O3
                users=16
  179.art:      -O5 -lhmu -blpdata -lmass
                users=16
  183.equake:   -qpdf1/pdf2
                -O5 -blpdata -qalign=natural -D_ILS_MACROS
                users=16
  187.facerec:  -O5 -blpdata -qfdpr -qalign=struct=natural
                fdpr -q -O3
  188.ammp:     basepeak=1
  189.lucas:    -O5 -lmass -qessl -lessl -blpdata -qsave
                users=16
  191.fma3d:    -qpdf1/pdf2
                -O5 -blpdata -qfdpr -qalign=struct=natural
                fdpr -q -O3
  200.sixtrack: F77=xlf90
                -q64 -O5 -blpdata -lmass -qalign=struct=natural -qfdpr
                fdpr -q -O3
  301.apsi:     F77=xlf90
                -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

C:              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=2048 -o lgpg_size=16777216
    chuser capabilities=CAP_BYPASS_RAC_VMM,CAP_PROPAGATE $USER
    reboot -q
    export MEMORY_AFFINITY=MCM
    export LDR_CNTRL=LARGE_PAGE_DATA=M

The following config-file entry was used to assign each benchmark process to a core:
   submit = let "MYCPU=2*$SPECUSERNUM"; if (("$MYCPU > 31")) then let "MYCPU-=31"; fi; bindprocessor $$ $MYCPU; $command
The "bindprocessor" AIX command binds a process to a CPU core.

Use flags-description file IBM-20050822-AIX.txt.
```