The Progress Electronic Magazine

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Publisher's Statement:

I am performing an experiment with this issue – I am using the latest version of Open Office 1.1.0 for Mac OS X.

Yep, I finally got tired of Windows and it's nonsense. I am quite HAPPY with my new Apple Powerbook. Like they say, "It just works!"

Of course, this means "Ah, but, Progress doesn't run on OS X." Yes – this was a concern. If I had to loose Progress to go to OS X – I was willing to do it.

Luckily, this is not required! I have found a way to get progress running on my Apple Powerbook and all is well again.

There are no big secrets to it, I am using a tool called Virtual PC, which basically runs Windows in a little window and I can use it to a point – things like video hardware acceleration and the like are not available, but I can certainly run Progress programs on it.

Providing a training session, I was able to run AppBuilder to create CGI Wrapper based web programs, and the like. I did not try it with COM/Active X objects or DLLs and all that. Theoretically it should work just fine.

Lets get on with the fun!

Scott Auge

Running Progress on the Apple OS X Operating System

By Scott Auge

About Virtual PC

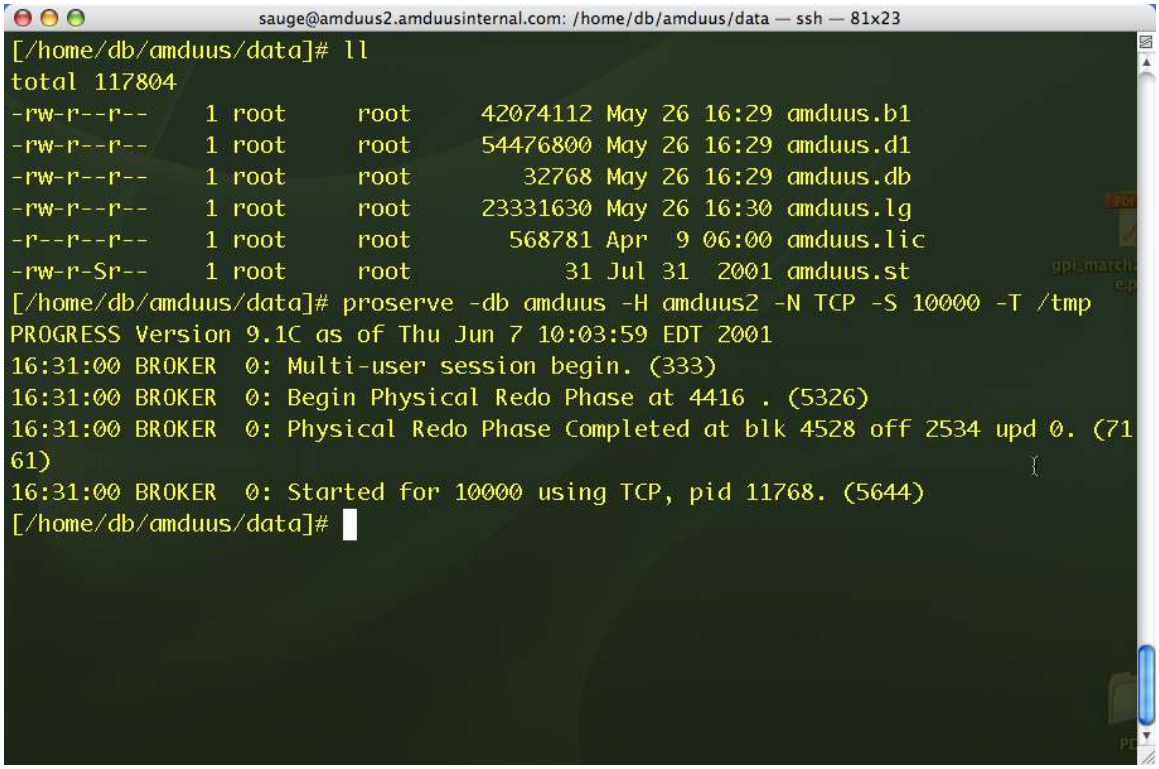
Virtual PC is a piece of software that will allow Mac users to run Windows programs. So, if we were hoping for native access to Progress – we are, so far – out of luck.

But, if you are a Progress consultant like I am, and you give up your Window's based PC – the Virtual PC program is a very good thing.

How my systems are set up

I have Version 9.1C Progress on a Linux computer running a network accessible database.

Below I start up an RDBMS server with the basic information to make it available on my local area network.



Here is a problem I had to work out. It is not totally germane to running Progress on OS X, but I do have a bit of a funky network (security) and it does give OS X a chance to really shine.

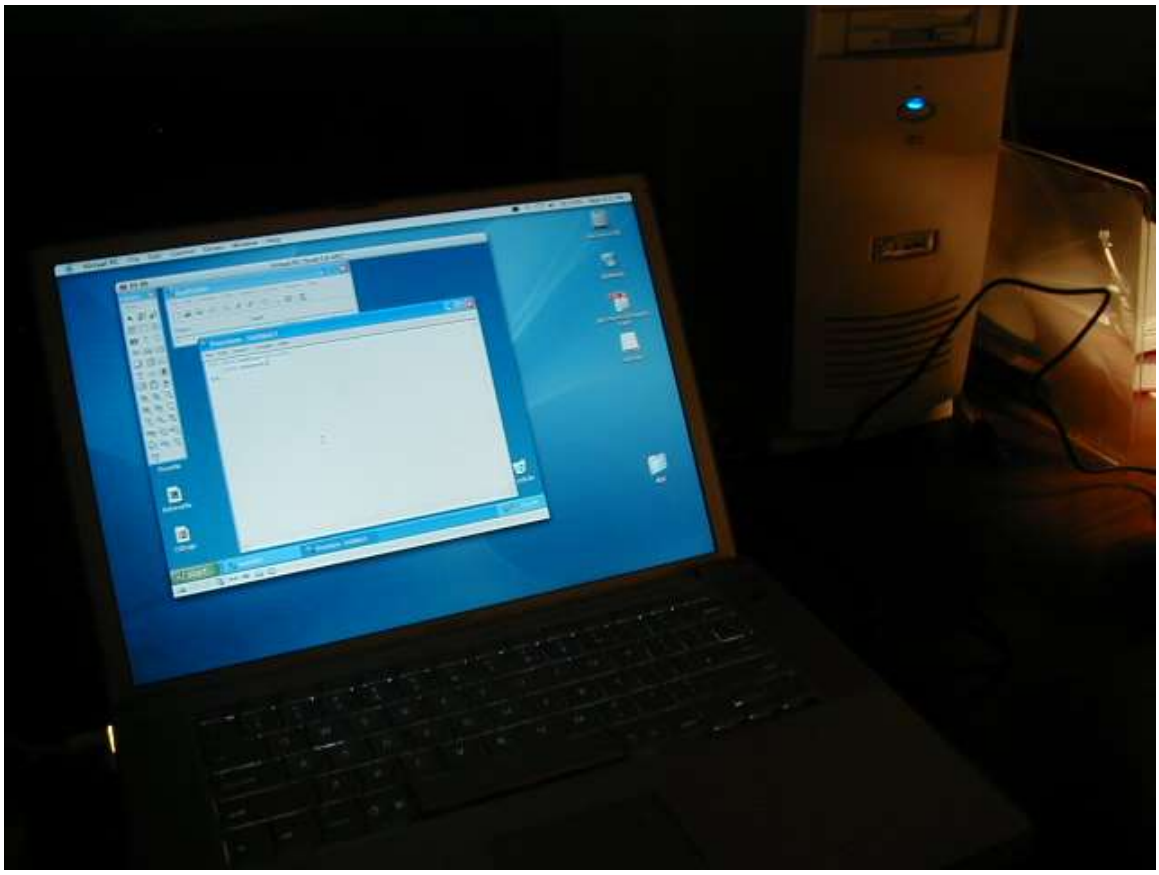
The server sits on a 192.168.254.* network.

The repeater for 192.168.254.* is also a repeater for a DSL connection on a 172.16.*.* network that supplies the IP address of the laptop. In other words, it is handling two networks.

This means the laptop needs to be on both networks, but I only had one Ethernet card.

Luckily OS X is UNIX based – so I can do a little thing that I have never been able to do on a Windows computer. I can have two or more IP addresses on the same Ethernet port.

I start up the laptop and allow the card to receive it's address from the DHCP server on the 172.16.*.* network.



Apple G4 Powerbook running Progress GUI and
the Linux server behind it running the Progress RDBMS
(Yes, the keyboard on the Powerbook really does light up!)

Then I go to the terminal program on OS X and issue the following command:

```
ifconfig en0 192.168.254.4 netmask 255.255.255.0 alias
```

Wha – la! Upon examining the configuration for the Ethernet card, you can see

that it will handle data for both networks. I highlighted the important stuff.

```
172:~ scottauge$ ifconfig -a
lo0: flags=8049<UP,LOOPBACK,RUNNING,MULTICAST> mtu 16384
        inet6 ::1 prefixlen 128
        inet6 fe80::1 prefixlen 64 scopeid 0x1
        inet 127.0.0.1 netmask 0xff000000
gif0: flags=8010<POINTOPOINT,MULTICAST> mtu 1280
stf0: flags=0<> mtu 1280
en0: flags=8863<UP,BROADCAST,SMART,RUNNING,SIMPLEX,MULTICAST> mtu
1500
        inet6 fe80::20a:95ff:fed1:2942 prefixlen 64 scopeid 0x4
        inet 192.168.254.4 netmask 0xffffff00 broadcast 192.168.254.255
        inet 172.16.1.34 netmask 0xffff0000 broadcast 172.16.255.255
        ether 00:0a:95:d1:29:42
        media: autoselect (10baseT/UTP <half-duplex>) status: active
        supported media: none autoselect 10baseT/UTP <half-duplex> 10baseT/UTP
<full-duplex> 10baseT/UTP <full-duplex,hw-loopback> 100baseTX <half-duplex>
100baseTX <full-duplex> 100baseTX <full-duplex,hw-loopback> 1000baseTX <full-
duplex> 1000baseTX <full-duplex,hw-loopback> 1000baseTX <full-duplex,flow-
control> 1000baseTX <full-duplex,flow-control,hw-loopback>
```


To easy!

Then update the /etc/resolv.conf to include the DNS server for the 192.168.254.* network.

So now – we have connectivity between the laptop and the server running the database.

It might sound complicated, but really I should have been using a router – but I simply set up the laptop to act as a router for it's own packets. If I had allowed the server to be on the 172.16.*.* network, none of this would be required – BUT then people might be able to access it from the DSL. I just made it one more point of hassle for security' sake.

Yes, I am paranoid.

Starting up Progress on OS X

Let's talk about the software that runs Windows on OS X. It is called Virtual PC for Mac.

This was a product of a company called Connectrix – but they got bought out by Microsoft.

So yes, I did have to pay the Microsoft tax for Progress' sake. It is a bit of a perversion to run Windows on a nice UNIX system, but that is how it is.

At the time of this writing, the software ONLY RUNS on a G4 microprocessor. Cnet reports this is the reason:

The reason for the incompatibility, according to Microsoft, is that the current version of Virtual PC for the Mac relies on a feature of the PowerPC G3 and G4 processors called "pseudo little-endian mode," which helps boost performance of a Mac when it is trying to emulate a Pentium chip.

-- http://news.com.com/2100-1042_3-5068747.html?tag=fd_top

The software runs Windows XP Home Edition (or other) in a window. The software will require you to set aside some of the memory in your Apple to be used by Windows. In essence, you will be running two operating systems on the same machine – so your machine should have a little bit of memory!

My Powerbook has 512MB of memory in it and it is running a 1.25 Ghz PowerPC G4. Allocating 340MB to Windows seems to work out OK.

I run very limited small programs natively. Perhaps image capture programs, OpenOffice and the X Server. Anything else and I start noticing a significant slow down. I do plan on bumping up to 1 GB of memory in the future. If I am running two operating systems I am going to need the memory for two operating systems.

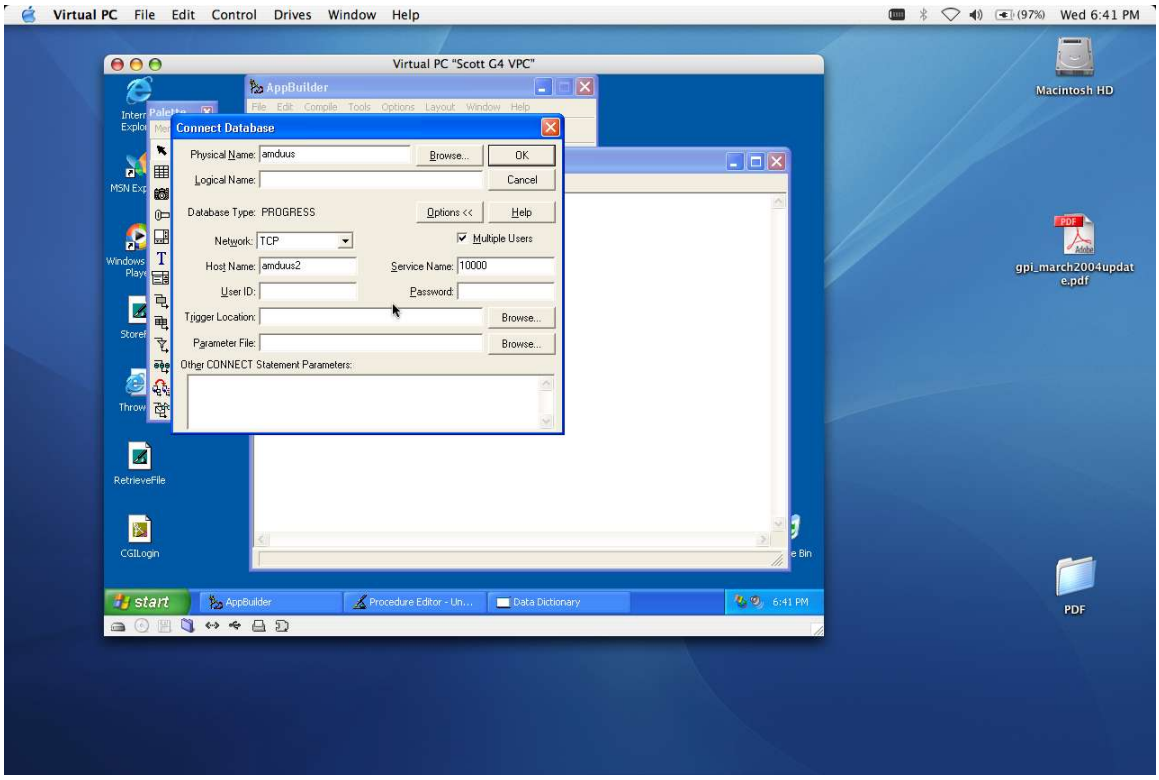
On Windows, I am running Progress solely. Progress in windows does have a little bit of hesitation – like a couple of milli-seconds, but nothing that will drive you mad. This "top" will give you an idea of what is going on memory wise.

```
  Processes:  61 total, 2 running, 59 sleeping... 164 threads
20:27:07
  Load Avg:  0.62, 0.42, 0.30     CPU usage:  14.9% user, 16.5% sys, 68.6% idle
  SharedLibs: num =  130, resident = 48.5M code, 2.60M data, 12.8M LinkEdit
  MemRegions: num =  7700, resident =  119M + 8.90M private,  167M shared
  PhysMem:  63.5M wired,  152M active,  249M inactive,  464M used, 47.5M free
  VM: 4.42G + 92.7M   220034(0) pageins, 142979(0) pageouts

    PID COMMAND      %CPU   TIME   #TH #PRTS #MREGS RPRVT  RSHRD  RSIZE  VSIZE
   4758 top         14.7%  0:08.60   1    16    26   332K   448K   704K  27.1M
   4716 Preview      0.0%  0:23.92   2    92   151  3.53M  8.89M  8.56M   144M
   4626 bash         0.0%  0:00.08   1    12    15   176K   892K   660K  18.2M
   4625 login        0.0%  0:00.04   1    13    37   144K   440K   312K  26.9M
   4568 mozilla-bi   5.7%  1:57.25  10   220   453  24.7M  34.9M  46.6M   353M
   4547 soffice.bi   0.8%  2:47.09   4    34   603  39.5M  74.9M  88.6M   161M
   4543 quartz-wm    0.0%  0:03.71   2    34    49  2.79M  2.36M  4.51M   117M
   4541 Xquartz      1.6%  1:50.55   4   193   271  8.30M  15.9M  19.5M   157M
   4540 X11          0.0%  0:00.01   1    19    25   220K  1.34M   600K  28.1M
   4498 bash         0.0%  0:00.08   1    12    18   144K   944K   700K  18.2M
   4497 login        0.0%  0:00.03   1    13    37   132K   440K   312K  26.9M
   4496 Terminal     1.6%  0:31.59   4    71   181  2.29M  15.5M  12.0M   148M
   4486 VirtualPC_   0.0%  0:00.77   2    13    25    32K   348K    88K  36.3M
   4485 Virtual PC   0.0%  0:00.00   1     9    77     8K  4.68M    16K  60.6M
   4484 Virtual PC   1.6%  5:33.78   9   207   221  3.42M  10.1M  9.00M   156M
   4482 Start Menu   0.0%  0:16.62   1    56   103  1.36M  5.19M  1.88M   130M
   4451 smbd         0.0%  0:00.67   1    17    49   688K  1.70M  1.79M  30.3M
   4446 slpd         0.0%  0:00.09   6    29    37   200K   808K   572K  30.4M
   4428 lookupd      0.0%  0:05.42   2    35    63   388K   808K   884K  28.5M
    624 AppleSpell   0.0%  0:00.42   1    24    37   480K  1.17M  1.04M  36.3M
```

```
  566 System Eve    0.0%  0:01.02    1    56    87   724K  2.35M  9.70M   129M
  460 SystemUISe    0.0%  0:52.63    2   209   224  1.70M  6.88M  3.38M   141M
```

Working Progress on OS X



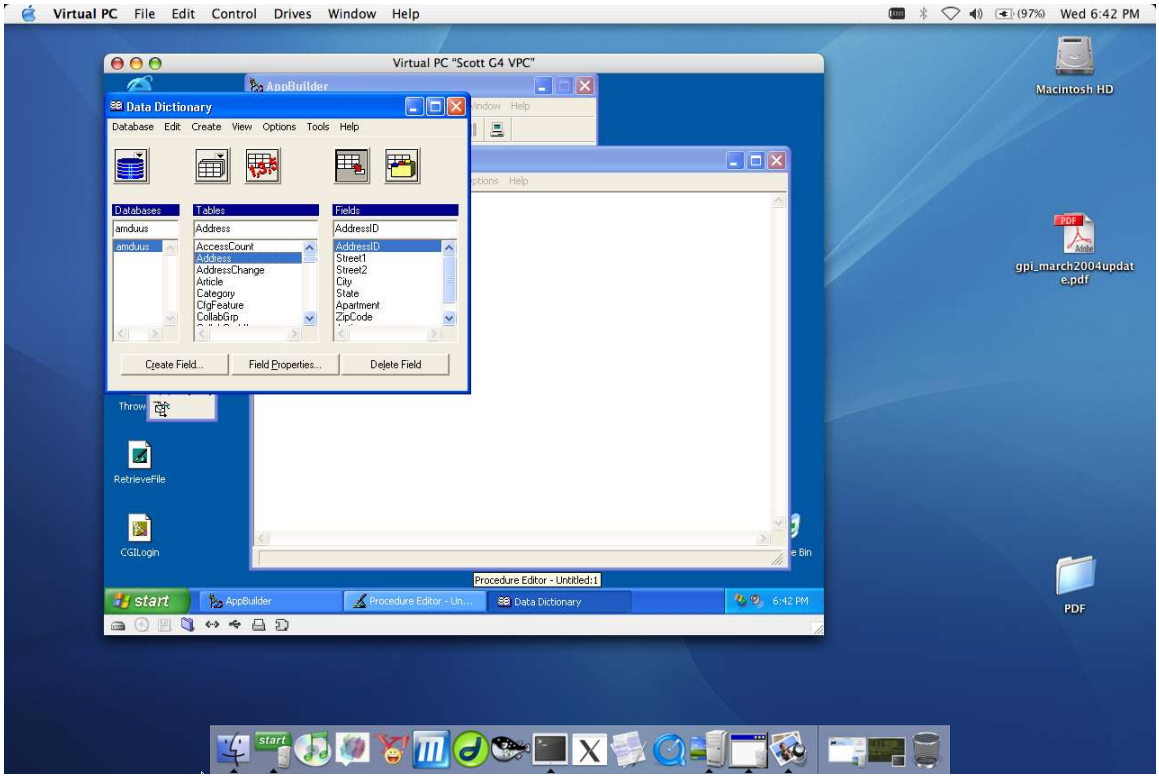
Within this window, you would install progress, just like you would on a Windows XP computer. In Virtual PC, you will have to give it permission to access your CD drive on OS X with a click of the CD drive button at the bottom of the window. Then you slip in the Progress CD and it installs EXACTLY the same way as it would on Windows XP.

Then you can run Progress in this window, as you can see above.

The Virtual PC will use the underlying network connectivity of OS X to allow Windows to reach other systems. So if OS X is not reaching other systems, the Windows running in Virtual PC will not be able to reach other systems.

You can see here, that I am entering TCP client networking settings to connect my Progress client to the database on the Linux computer. Virtual PC allows you control if the session can reach the network or not, so you should click on the network icon

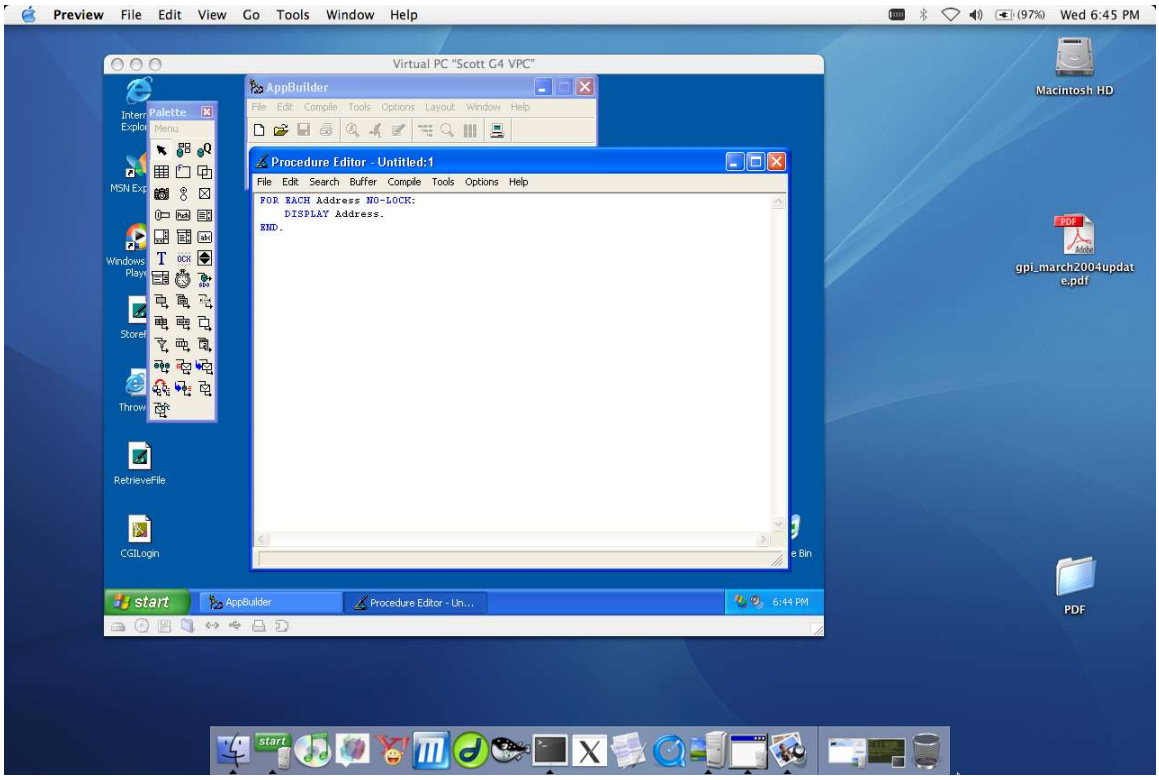
to insure Virtual PC is allowing the Windows session to access OS X's networking subsystem.



Once it is talking to OS X's networking subsystem, you can connect right into the database server, as the data dictionary above shows

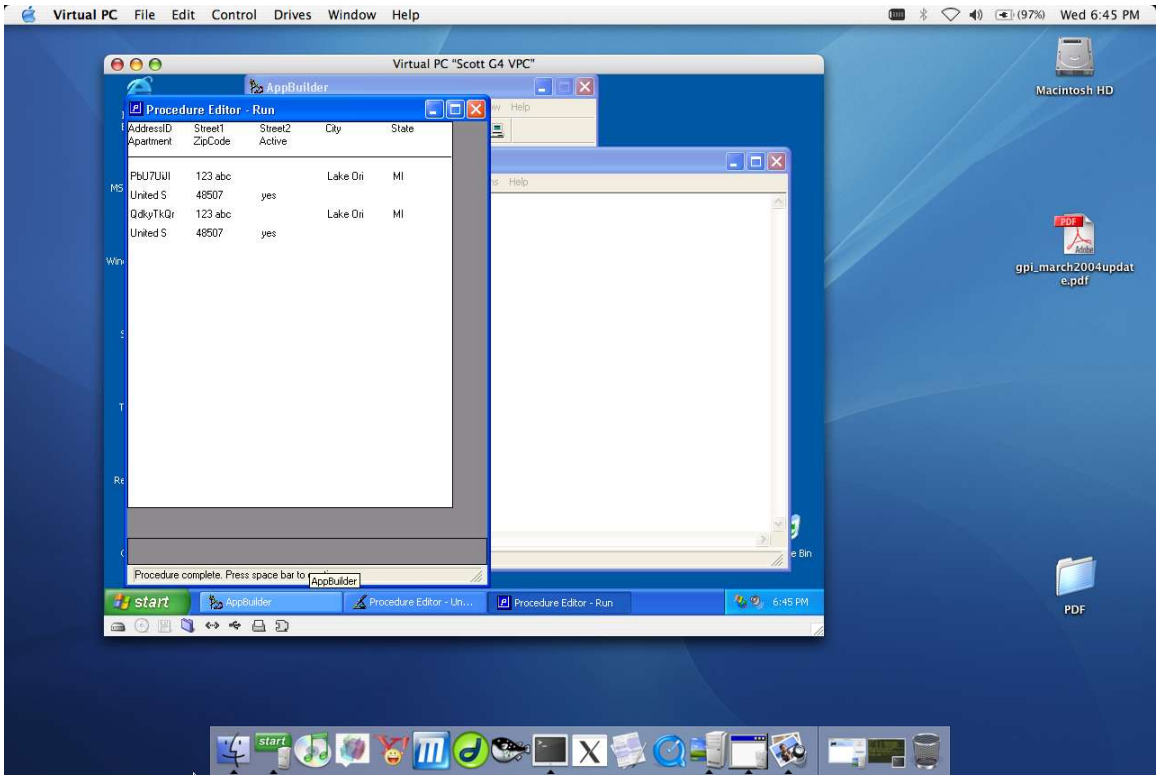
Once connected to the database, you can use Progress as you normally would in the windows environment.

On the next page, you will see a simple query into the database and it's results:



The query code... a simple FOR EACH on a table....

Note that AppBuilder is available and functional.



And the raw badly formatted results – but hey! It did work!

So, if you do plan on heading over to an Apple, you should be able to continue working Progress technology on it.

Word is from Microsoft, that they are working out the problem with running Virtual PC on the G5[1]. They missed a deadline, but being a programmer, I can completely grok working a new code base and application as the reason for it.

It is suppose to come out with the next version of Office for the Mac.

Scott Auge is the founder of Amduus information Works. He has been working with Progress technologies since Version 6. He works with UNIX platforms dealing with integration and web based applications.

1 Oh my God the G5 is fast! It is a RISC 64 bit PowerPC processor. You know, the kind IBM puts in their AIX servers. The G5 hardware also has faster buses to get the data here and there quickly. Man!

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