



## **Modulus Technical Note #8 - *Multiple Instances of 4D Server under Windows NT*** (Amended 17/2/99)

It is possible, although not officially by ACI supported i.e. ACI Technical Support will not accept telephone help requests on this subject, to run more than one instance of 4D Server under Windows NT.

There follows extracts of an e-mail exchange between ACI technical support and one of their clients:-

ACI:-

We have worked with xxxx and several other customers to get 4D Server running in multiple copies on NT and TCP/IP.

Anyway: below is the standard info that we give to customers who want to set up multiple instances. We do not make any representations as to the performance, since we would have to know every detail about their entire setup in order to make an accurate estimate of performance.

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### 2-2-5 TCP/IP & IPX: Multiple Instances of 4D Server

4D Server allows you to run multiple instances of 4D Server on the same machine, and each instance can have as many users connected as there are licenses on the server. Example: a 10-user 4D Server, running under three instances on the same machine, can have up to 10 users per instance of 4D Server. Traditionally, this has been a simple process on the Macintosh with ADSP: simply install two or more copies of 4D Server and launch the databases. However, with TCP/IP and IPX/SPX, things are not so simple.

Background information: ADSP has the capability to broadcast multiple 4D Server databases that are running simultaneously on the same machine; however, TCP/IP and IPX/SPX do not have this broadcast capability. The reason for this limitation of TCP/IP and IPX/SPX is that a TCP Address or an IPX address is the address of the Machine. One machine, one address. To work around this limitation, 4D Server 1.5.X addresses on TCP/IP and IPX/SPX have been expanded to include a second parameter, the "Port Number." This Port Number syntax allows several databases to co-exist on one machine with one TCP or IPX address.

Below are the steps for setting up multiple databases with multiple Port Numbers on TCP/IP or IPX/SPX on Windows:

#1 Launch one instance of 4D Server with the TCP/IP or IPX/SPX Protocol and Network Component installed. This will cause 4D Server to create Options files (TCP.OPT for TCP/IP, IPX.OPT for IPX/SPX) in the Windows/ACI directory.

#2 Duplicate the PROGRAM directory (the directory containing 4DSERVER.EXE) for as many instances of 4D Server as you want. Make sure that each directory

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contains all the files needed to run 4D Server. We use 3 instances in this example. Give each instance of the PROGRAM directory a different name. We will call them PROGRAM1, PROGRAM2, and PROGRAM3

#3 Go to the Windows/ACI directory and Copy the Options file (TCP.OPT or IPX.OPT).

#4 Paste a copy of the Options file into each of the directories: PROGRAM1, PROGRAM2, and PROGRAM3.

#5 Customize the Port Number each of the Options files. Launch Customizer Plus, then Open the Options file. Double-click the Preferences icon. You will see a the default port number. Make the Port Number in each PROGRAM directory unique. For example, you can assign the TCP/IP Port Numbers 1234, 1235, and 1236.

#6 Remove the .OPT file from the Windows/ACI directory. When 4D Server does not find the Options file in the Windows/ACI directory, it will look for the file in the directory that contains 4DSERVER.EXE.

#7 Launch each of the instances of 4DSERVER.EXE

#8 Launch 4D Client as follows:

- a. Double-click 4D Client.
- b. Choose the network component that you want to use (TCP/IP or IPX/SPX)
- c. Click the More Choices... button
- d. In the expanded dialog, create a hardcoded address. Enter the database name, then enter the server machine's TCP or IPX address followed by a comma, followed by the Port Number. Save this address by clicking the New button.

Example address for TCP/IP: 192.9.201.55,1234

Example address for IPX/SPX: 701F03AC0005A800308F,12466

- e. Select the new address, then click the OK button to log on to that database.

NOTE: There are certain allowable ranges of port numbers on TCP/IP and IPX/SPX. To make sure that you do not go outside the allowable range, we suggest that you use the default port number as your first port, add one for the second port number, add two for the third port number, and so on.

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Setting up multiple databases with multiple Port Numbers on TCP/IP or IPX/SPX on Macintosh:

#1 Launch one instance of 4D Server with MacTCP or MacIPX installed. This will cause 4D Server to create an Options file (TCP.OPT or IPX.OPT) in the System:Preferences:ACI folder.

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#2 Make duplicate copies of 4D Server and place each copy in a separate folder. Again, let's call these separate folders PROGRAM1, PROGRAM2, and PROGRAM3.

#3 Go to the System:Preferences:ACI folder and copy the Options file.

#4 Place a copy of the Options file into each of the folders: PROGRAM1, PROGRAM2, and PROGRAM3.

#5 thru #8: these steps are the same as the above steps for Windows.