

Client/Server Espion Software

The Espion software is built upon an industry standard SQL database from Interbase. This database can be configured to support one or more clients (PC based programs that interrogate the database simultaneously) in a client/server configured system. By default, the Espion is shipped as a local client/server system which allows only one local client to access the database at any one time. To convert the software into a multiple client system requires an additional license being purchased. This converts the server from local server to remote server status and adds the ability to simultaneously link more than one client (normally up to 5). However, each additional client added must also have an Espion software license which must be purchased from Diagnosys.

The database requires at least three programs to access it. A server program which is always running and controls the actual accesses to the database, verifying client passwords, managing simultaneous read/writes to the same records, and performing all the house keeping duties; a client control program that communicates between a client program and the server and finally the actual client program. One server program may handle many client programs simultaneously. It is normal to think of the client control program and the actual client program together, although it requires two different program installations.

Location of database files

Interbase stores all the Espion records in one file. The default filename is ESPION.GDB and it normally resides in a directory C:\ESPION\DATABASE assuming the Espion software is installed in C:\ESPION. The Server program insists that the database files it has to access must reside on the same physical machine i.e. on the same drive, not on a networked drive or a mapped drive on another machine.

TCP/IP

The server requires your network to be running TCP/IP protocol although it claims to understand NETBEUI we have not tested this feature.

Local client/server

The Espion console software is shipped configured as a local client/server application. This means that the database server program is physically on the same machine as the client program (the Espion software) that connects to it. The database server is configured to run whenever Windows is started and can be controlled by the little icon of a computer with a yellow cog on a green triangular background in the tool tray on the taskbar. Without this server program running, the Espion software will not be able to access the database and will not run. This configuration only allows one client program (which must be installed on the same computer as the server) to access the data at any one time.

Remote client/server

A remote client/server system allows access to the server from a client program installed on another physical machine and connected only by a TCP/IP network. This mode, is in addition to the standard local client/server set-up, and physically differs in only the licence used when the database is installed. Otherwise both installations are the same.

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Client/Server Espion Software

Configuration 1

The Espion console contains the server program and the client program. Further clients on other networked PCs can access the Espion database. This scheme is an extension of the default local client/server requiring a licence change on the Espion, and other client PCs to install a client copy of Interbase and the client program (the Espion software). This is the simplest to configure but is does mean that the Espion console must be on and running whenever a remote client PC wants to access the database. It also means that the database files must also reside on the Espion console as they have to be on the same machine as the server.

Configuration 2

The server program and database files reside on an external PC and the Espion console is just a client. This requires removing the server program from the Espion console, and installing it on a networked PC. The advantage of this system is that the Espion console does not need to be on for other PCs to access the database, and it makes backup much easier as the database files also reside on this other PC which will probably have a CD-RW or be part of a backup procedure already. It does however mean that the Espion console must always be connected to the network and the network be up and running (including the server) before it can be used. This rather limits the portability as the console is no longer self contained.

Configuration 3

The Espion console is left as a local Client/server system, and another local client/server system is set-up on every PC that wants to access the database. This requires the database files to be copied from the Espion machine onto the other server systems before the data can be accessed. Any changes to the database files require the files to be copied back again to the Espion etc. The advantage of this system is that both client/server systems can run independently of each other. The disadvantage is that you can easily lose synchronization between files.

Removing the Server program from the Espion console

Go to the Control panel/Add Remove programs section and remove the Interbase Server V5.1.1 software. Next time you power up windows, the server icon should no longer be displayed in the tool tray on the taskbar and the Espion program will be unable to find the database.

Changing the licence registration

Located in the Interbase program group should be a program called "Interbase Licence registration tool" or you can manually find it in "C:\Program Files\Interbase Corp\InterBase\bin\iblicense.exe". This program allows a different license certificate ID and key to be entered. These will have been supplied by Diagnosys.

Adding a client PC to an Espion Server

Before you can install any other clients, you must be in receipt of a remote server license ID and key and have the required number of Espion software licenses as clients to be installed. To install the client PC software, you must install both the Interbase Client software and the Espion software on each client PC. Do NOT install the Espion

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Client/Server Espion Software

server software on the client PCs. On the supplied CD or ZIP with your Espion system you should find an INSTALL.EXE program in the root directory which will give you the option to install the Espion software, the Interbase client software and the Interbase Server software. These three software packages can be installed manually from the following directories:

- Espion software set-up program is to be found in the directory called DISK1
- Interbase client set-up program is to be found in the directory INTERBASE\W32CLNT
- Interbase server set-up program is to be found in the directory INTERBASE\IBASE50

Finally you must change the Interbase server license on the Espion console to convert it from a local server to a remote server.

Installing the Server on another PC

First run the Server install program which is found on the Espion distribution CD or ZIP in the INTERBASE\IBASE50 directory. Remember, you need to have the remote server licence certificate ID and key numbers ready to enter. At the end of the installation it asks if you want to modify your TCP/IP settings. You should answer yes.

You must un-install the server from the Espion console if you want the database files to reside on the external PC. If you want the PC with the server to also have a client Espion program, you must install the Interbase Client software and the Espion software as well.

Configuring the Espion program on a client PC

Run the Espion program and press the green start button from the front menu. If all goes well, the Espion program should produce an error about not being able to log on to the database. The program will however first try to run the Interbase server program if it finds it not loaded which is not what you want on a Client Espion. If the server starts, you will see a little computer with a green ball behind it icon appear in the tool tray. You need to un-install the server and try again. If the server is not running, then you should see a message something like:

"Unknown username or password. Unavailable database. Alias ESPIONSQL"

This is the time to configure the database path to let the Espion software know where to look for the database. Press the Database Center Button and then the Connect button. This will produce a menu allowing you to browse for a database file to connect to. However, this browse facility does not work over a network, and so you must type the full path and filename into the filename input box directly.

UNC and TCP/IP naming conventions

Windows uses the UNC naming convention for referring to computers on the network whereas Interbase uses the TCP/IP convention.

UNC convention refers to a network computer in the form:

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Client/Server Espion Software

\computer\...

Where as TCP/IP refers to the same computer as:

Computer:... note: the colon after the computer name

Where "computer" is the name of the computer on the network.

For this reason you must type the full path and filename of the database in TCP/IP convention e.g.

ESPION:C:\ESPION\DATABASE\ESPION.GDB

Not

\ESPION\c:\ESPION\DATABASE\ESPION.GDB

If you type in the UNC form, then the Espion program will produce the error message:

"Unknown database.
Unable to complete network request to host "ESPION".
Failed to establish a connection"

The program does however allow UNC names to be entered if you have enabled the "Convert UNC to TCP/IP Drive" parameter in the DATABASE module in the Configure System menu.

Troubleshooting

This process is the same whether the networked PC is the client to the Espion console Server or the Espion console is the client to the networked PC server.

Server computer actions

- Check that the server software is running on the server computer (look for the Interbase icon in the tool tray).
- Make sure that the server has an Interbase data file (e.g. ESPION.GDB) on the same computer as the server software.
- Run the Interbase Server manager program (found in the Interbase program group of the run menu)
- Select File|Server Login... from the program menu.

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- Select local access and type in the default username **SYSDBA** and password **masterkey**. If all goes well a little server icon will appear in the main window.
- Select **File|Database Connect..** from the program menu and either type the path and file name of the database file e.g. **C:\ESPION\DATABASE\ESPION.GDB** or browse until you find it.
- If all goes well, a little database icon under the server icon will appear in the main window.
- Close the Interbase server manager

This verifies that the server is fully running and the database file can be found and logged into at least locally.

Client Computer actions

Always perform the server actions before attempting to debug the client program. Assuming the server program is up and running on the server PC, Then perform the following:

- Check that the Interbase Server program is not installed on the client PC. Look for the Interbase Server icon in the tool tray on the taskbar.
- Check that the client computer can see and access files on the server computer using the network browser facility built into windows. This is one of the main causes of problems when debugging client/server issues. If this doesn't work, nothing else will.
- Assuming both the client and server can see each other and the client can access server computer files under Windows networking then the next step is to run the Interbase Server manager program found in the Interbase program group on the client PC.
- Select **File|Server Login...** from the program menu.
- Select remote access and type in the name of the server computer or its IP address. This can be found on the server computer under **Control Panel|network|identification|computer name**. Next type in the default username **SYSDBA** and password **masterkey**. If all goes well a little server icon will appear in the main window. If this fails then it is most likely that the TCP/IP settings are not correct, or the server computer name is incorrect. More information about TCP/IP setting for interbase and advanced troubleshooting can be found in the Interbase User Guide installed with the client/server programs.
- Select **File|Database Connect..** from the program menu and type the path and file name of the database file e.g **C:\ESPION\DATABASE\ESPION.GDB** on the remote computer.
- If all goes well, a little database icon under the server icon will appear in the main window
- Exit the server manager and run the Espion program. Go to the database center and press the connect button
- Type in the full path of the database file on the server PC e.g. **Computer:c:\Espion\database\Espion.gdb** note: the colon after the Computer (your server computer name). This is TCP/IP format not the standard UNC Windows format.

If all goes well the Espion should after a delay continue with no error messages and you should have access to the database on the server.

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Known bugs

Finally There is a known bug in some versions of the Espion software such then when the program is first run, it checks if it can find the last connected database, and if it can't find it, offers the user the opportunity to create a new one. If the last connected database was on a network computer (the server is not local to the Espion program) it will not be able to find the database file and will always produce this message. You should press No and continue. In later versions you can disable the "Create Default Database" parameter in the DATABASE module in the configure system menu which will remove this check.

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