

4 TECHNICAL INFORMATION

4.1 Software and Hardware Requirements

- Operating System: preferably Windows NT 4, Windows 2000. Windows 95/98 are also supported.
- Memory: minimum of 64 MB RAM.
- Software: Microsoft Office Professional 97, with service release 2b.
- **Note:** deploying the application under MS Office Professional 2000 is not supported at the moment.
- Minimum Screen Resolution: 800 x 600.
- Regional Settings: Ensure that your short date format, in Control Panel: Regional Settings is set to display an acceptable date format, e.g. dd/mm/yyyy.

4.1.1 Application Architecture

The rivers database application consists of two main Microsoft Access database files: **rivers.mdb**, containing the majority of the user-interface components (the 'front-end'), and **rivdat.mdb** containing the actual stored data tables (the 'back-end'). The Query Centre is shipped as a separate file (qryctr.dll) which is invoked from within the front-end and is an independent component object, created using Visual Basic.

4.2 Installing the Rivers Database application

- 1) Insert the CD
- 2) Start Windows Explorer
- 3) Browse to the CD, change folders to the 'ActiveBarSetup'. Double-click on Setup.exe. Follow the instructions, and accept all defaults (this installs a custom ActiveX control used by the rivers application)
- 4) Run setup.exe in the ODEsetup folder (this installs the main Microsoft Access front-end file and supporting files)
- 5) Run setup.exe in the Query Data Designer folder (this installs the Query Centre COM files, and MDAC 2.1)
- 6) Copy the Data file from the Data File folder to c:\riverdbase, or to another convenient location (please note where you place the file, e.g. on a central share on your network)
- 7) From Windows Explorer, Right-click on the rivdat.mdb file, click on properties, and uncheck the read-only property.

- 8) Install Service Pack 2b which is an update of the Microsoft Office 97 installation. If Service Pack 1 has not been installed previously, it will be necessary to install this first. These files can be found under the folders ‘\Support\Off97\Sr1\Sr1patch\’ and ‘\Support\Off97\Sr2b\’. Please note that if you need to reboot your PC at any stage in the process (e.g. to update certain files on your system), it is necessary to restart the appropriate setup program that was busy running.

4.3 Starting the Rivers Database Application

- 1) Click on Start: Programs: Rivers: Rivers.
- 2) The application will prompt the user to browse to the folder containing the data file. This prompt will appear every time at start-up, if the application cannot find the data file (e.g. if you placed the file on a network drive and you have lost your drive mapping, if your network is down, or if you have physically moved (as opposed to copied) the rivdat.mdb file to a new location).
- 3) Log in by choosing your organisation from the list, and using your supplied username.
- 4) Click on login.
- 5) Enter password.

4.4 Synchronising and replicating the database

The Rivers Database has been developed in such a way that several users are able to add data to their version of the database (rivdat.mdb). Once modified, these individual copies of the database need to be incorporated into the Master File by the Central Authority (provisionally Southern Waters) so that global updates of the database can then be distributed to users. This process is termed replication and synchronisation.

4.4.1 Replicating or backing up the database

Within the application there is a utility to create a backup replica of the application. It is very important that the data file is restored from a backup replica (see Replication Manager). If the data file becomes corrupted, it is important to replace the file with the last good backup replica.

If you compact a replica that is corrupted, it will lose its replicable status (and Design Master status if it's the Design Master). Compacting a corrupted replica causes the replica to return to a normal, non-replicated database. You will not be able to transfer any new data in any easy way into the master file.

Creating a Backup Replica

- 1) Select 'Replication Manager' from 'Rivers Function' on the Menu Bar.
- 2) Click on 'Create a Backup Replica'.
- 3) Select a folder in which to store the new replica in.
- 4) Click OK.

This backup replica ("rivdat.mdb") serves as a local backup as well as a copy that will subsequently be sent to the Central Authority for synchronising with the Design Master.

4.4.2 Creating a replica to send to the Central Authority

The following procedure should be adhered to prior to sending the modified database to the Central Authority.

- Synchronise your database with your backup replica.
 - 1) Select 'Replication Manager' from 'Rivers Function' on the Menu Bar.
 - 2) Click 'Synchronize with a backup Replica' (see previous section).
 - 3) Select the folder in which the replica is found.
 - 4) Click OK.
- Compact the data file.
 - 1) Select 'Replication Manager' from 'Rivers Function' on the Menu Bar.
 - 2) Click 'Compact Database'.
- Compress the data file using a compression utility such as WinZip 7 (supplied on the installation CD).
- If you do not have a CD-writer, you will have to use compression with the disk-spanning option (e.g. onto formatted 3.5 inch stiffies).
- Send the compressed file to Southern Waters (an FTP site will be available later where the compressed data file can be placed – instructions to follow).

The Central Authority will, on receipt:

- 1) Uncompress your file.
- 2) Run a number of checks on the replica you have sent.
- 3) Synchronise your changes into the Master File.

When all participating replicas have been received by the Central Authority and applied to the central Master File, the Central Authority will:

- 1) Compact the master file twice.
- 2) Compress the file.
- 3) Create a CD containing the replica of the Master File.
- 4) Send it to the users.

4.4.3 Synchronising a user replica with the central Master File

Each user will synchronise their replica of the Rivers Database with the Central Master File on receipt of the CD.

- 1) Create a backup replica (see previous section).
- 2) Uncompress the master file from the supplied media (DO NOT OVERWRITE your data file!).
- 3) Synchronise your data file with this master file.
- 4) You will now have all updates made by other users in addition to changes made to your own data.

4.5 Troubleshooting tips

Novell networks

One problem could be that the client computer is running Windows or Windows NT® and using the Novell Client. If so, then load the Microsoft Client. If the Microsoft Client is installed, then make sure to get the SR1 patch for Windows 95, which includes an updated version of the Microsoft Client for Novell Networks. On the network side, be sure the number of record locks per connection is set to 10,000 and the Max record locks that the server can handle is set to 200,000.

Database corruption problems

Microsoft Access does not handle data collisions well. Make sure your network is not faulty because this will cause your database to crash and to become corrupted. Once a replica is corrupted, it cannot participate in synchronization.

Should I use backup utilities with my replicas?

You don't really need to – replication itself is a good mechanism for creating backups. Use another replica member on another physical drive or computer to back up your replicas. Synchronize on a regular basis to ensure a minimum amount of downtime should you ever need to restore from the backup replica. Should a replica member become corrupted or lost due to media theft or failure, simply create a new replica from another replica in the replica set.

Replication

You cannot create a backup replica using the button on the Replication Manager form if you have Office 2000 installed. Please contact technical support for information on a workaround.

4.6 Utilities

Winzip 7.0

- 1) Start Windows Explorer.
- 2) Enter directory containing Winzip70.exe and execute program (by double-clicking on winzip70.exe).
- 3) Click “Setup” button to begin installation.
- 4) Select a folder in which Winzip will be installed and click OK.
- 5) After agreeing to licensing select Winzip Classic and then Express Setup.
- 6) Click Finish to complete installation.

CuteFTP

This utility is supplied to eventually enable you to fetch and place your transfer replicate onto an FTP site on the central authority's Internet FTP server.