

Rebuilding the Route Operation File.

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The BUTIL utility, supplied by Pervasive, can be used to perform a number of maintenance tasks but the most important one is probably repairing database files on those fortunately rare occasions when something has caused data corruption.

1) Make sure that BUTIL works.

If the Pervasive.SQL client of workgroup engine has been installed correctly then the BUTIL command line utility should work simply by running it. Running BUTIL without any parameters should result in a long list of possible parameter combinations being show.

Run BUTIL -STAT *path to Omega database file* as an additional check - you should get a page's worth of information about the file, similar to the following:

```
Btrieve Maintenance Utility v7.0.0 for Windows 95/NT Build 146
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```

```
File Statistics for data\control\filedict.btr
```

```
File Version = 7.00
Page Size = 1024
Page Preallocation = No
Key Only = No
Extended = No
```

```
Total Number of Records = 276
Record Length = 191
Data Compression = No
Variable Records = Yes
  Variable-Tail Allocation Tables = No
  Blank Truncation = No
Free Space Threshold = 5%
```

```
Available Linked Duplicate Keys = 0
Balanced Key = No
Log Key = 1
System Data = No
Total Number of Keys = 2
Total Number of Segments = 2
```

Key	Position	Type	Null Values*	ACS
Segment	Length	Flags	Unique Values	
0	1	2 Unsigned	D --	11 --
1	1	3	2 Unsigned	00 A 276 --

Legend:

```
< = Descending Order
D = Duplicates Allowed
I = Case Insensitive
M = Modifiable
R = Repeat Duplicate
A = Any Segment (Manual)
L = All Segments (Null)
* = The values in this column are hexadecimal.
?? = Unknown
-- = Not Specified
```

The command completed successfully.

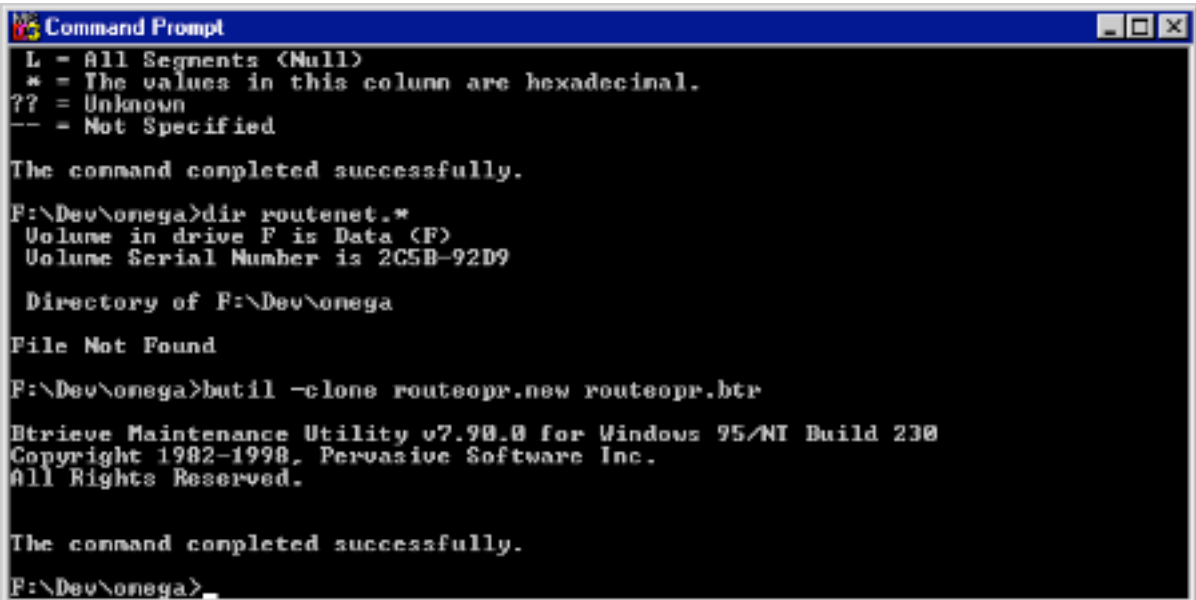
2) Copy the damaged file to where you are going to rebuild it.

Typically this is the 'root' Omega directory, e.g. O:\OMEGA. You could convert the record in-place, i.e. DATA\SYSDATA\SALESENG\CMP1, but even on a test system it is usually a good idea to rebuild elsewhere in case something goes wrong, or at least have a backup copy of the original file.

3) Clone the damaged file.

First we make a blank copy of the file. Run the following command:
BUTIL -CLONE ROUTEOPR.NEW ROUTEOPR.BTR

This will create a blank route operation file based on the damaged file, but called ROUTEOPR.NEW. The screenshot below shows a typical result:



```
Command Prompt
L = All Segments (Null)
* = The values in this column are hexadecimal.
?? = Unknown
-- = Not Specified

The command completed successfully.

F:\Dev\omega>dir routenet.*
Volume in drive F is Data (F)
Volume Serial Number is 2C5B-92D9

Directory of F:\Dev\omega

File Not Found

F:\Dev\omega>butil -clone routeopr.new routeopr.btr

Retrieve Maintenance Utility v7.98.0 for Windows 95/NT Build 230
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The command completed successfully.

F:\Dev\omega>
```

4) Copy from the damaged file to the cloned one.

Run the following command:
BUTIL -COPY ROUTEOPR.BTR ROUTEOPR.NEW

Note that this time the file names are switched in order - the new file comes second. This command will step through the file and extract each record it can find into the new file.

```
Command Prompt
L - All Segments (Null)
* - The values in this column are hexadecimal.
?? - Unknown
-- - Not Specified

The command completed successfully.

F:\Dev\omega>dir routenet.*
Volume in drive F is Data (F)
Volume Serial Number is 2C5B-92D9

Directory of F:\Dev\omega

File Not Found

F:\Dev\omega>butil -clone routeopr.new routeopr.btr

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The command completed successfully.

F:\Dev\omega>butil -copy routeopr.btr routeopr.new
```

This could take some time - on a Pentium 3 700Mhz machine with the workgroup engine the file sent here (980,000+ records) took about 17 minutes to convert.

```
Command Prompt
BUTIL-57: BUTIL has copied 986200 records so far.
BUTIL-57: BUTIL has copied 986400 records so far.
BUTIL-57: BUTIL has copied 986600 records so far.
BUTIL-57: BUTIL has copied 986800 records so far.
BUTIL-57: BUTIL has copied 987000 records so far.
BUTIL-57: BUTIL has copied 987200 records so far.
BUTIL-57: BUTIL has copied 987400 records so far.
BUTIL-57: BUTIL has copied 987600 records so far.
BUTIL-57: BUTIL has copied 987800 records so far.
BUTIL-57: BUTIL has copied 988000 records so far.
BUTIL-57: BUTIL has copied 988100 records so far.

The command completed successfully.

F:\Dev\omega>
```

5) Copy the new file back into the Omega directory structure and test the database.

Copy ROUTEOPR.NEW back to DATA\SYSDATA\SALESENG\CMP1\ROUTEOPR.BTR and give Omega a test run. Keep the original copy of ROUTEOPR.BTR in the Omega 'root' directory for a while in case anything crops up.

With a live system of course the backup file in the 'root' directory will rapidly become of limited use since new data will be constantly added.