FlashFiler to RDBMS Data Converter

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**This software is offered with no support or warranty;
see the final page for details.**

Background

In the early 1990s, at the height of popularity of Turbo Pascal, many Turbo Pascal developers used FlashFiler, a database of product from TurboPower. TurboPower converted the product to work with Delphi, and it achieved modest popularity there in the late 1990s. Eventually, in 2003 TurboPower went out of business, and left FlashFiler and many other products to the open source community.

Years later, in our work at Oasis Digital, we still occasionally encounter a Delphi system using FlashFiler. FlashFiler should be considered completely obsolete at this time, as nearly any currently available database solution will offer enormously more features and much better performance. Still, there are FlashFiler databases with megabytes or gigabytes of important information in them.

To assist in migrating these legacy FlashFiler databases to a modern relational database platform, we have created this data converter tool.

Introduction

This application converts an existing FlashFiler database to a new database in either of two RDBMS systems. It converts:

- all tables
- all fields
- all indexes

With this converted data in hand, developers can continue with the conversion work:

- Make adjustments to the schema two more fully used features of the modern relational database.
- Convert whatever software access to the FlashFiler database, or create entirely new software.

The software converts to either of these two popular RDBMS systems:

- Microsoft SQL Server, versions 2008 or 2012 have been tested, and newer future releases will likely continue to work.
- PostgreSQL (http://www.postgresql.org/), version 9.2.3 (or other 9.x) (download site) Period again, newer releases are likely to continue to work.

You can select which type of destination database in the UI. Note that in both cases, you must create the (initially empty) destination database using your RDBMS's management tool.

Usage

Install the software using the provided installer: **`setup-ff-rdbms-converter.exe`**

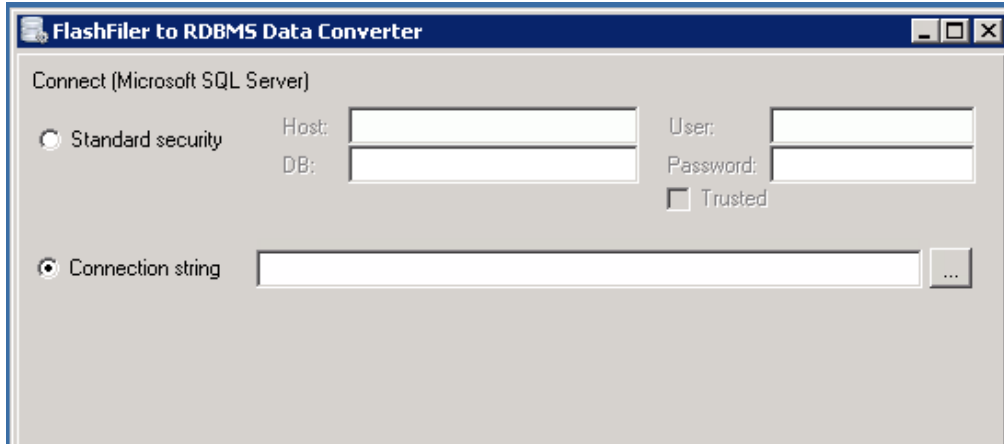Run the software. The first screen will let you select the destination database type:
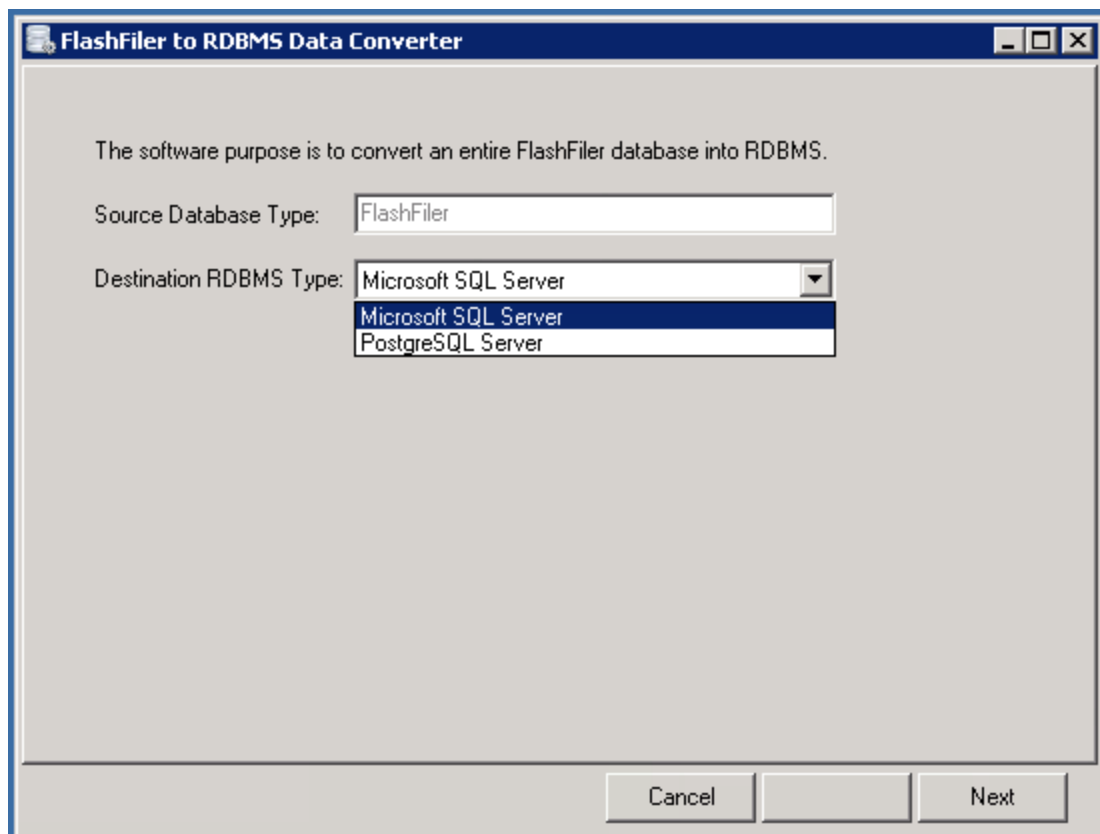
The next screen will let you choose the file folder in which your FlashFiler database is located. A FlashFiler database consists of numerous files in a single folder, comprising tables and indexes.
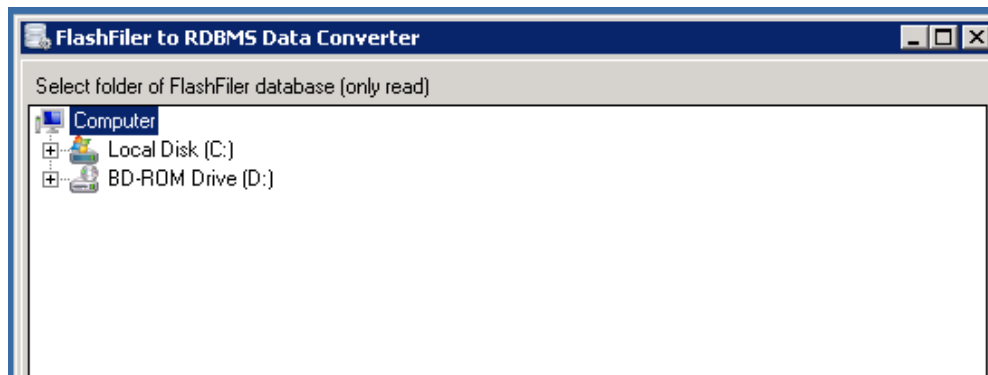
In the next screen, you can review the field type mapping for each field in each table of your FlashFiler database. The screen also lists the indexes that have been found and will be converted.
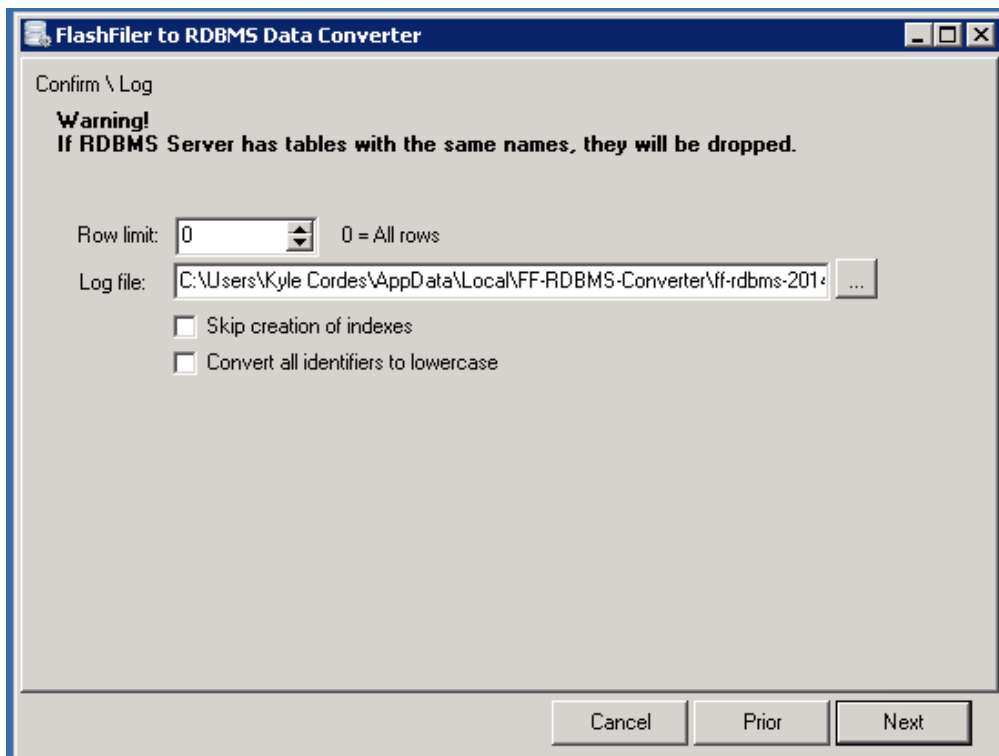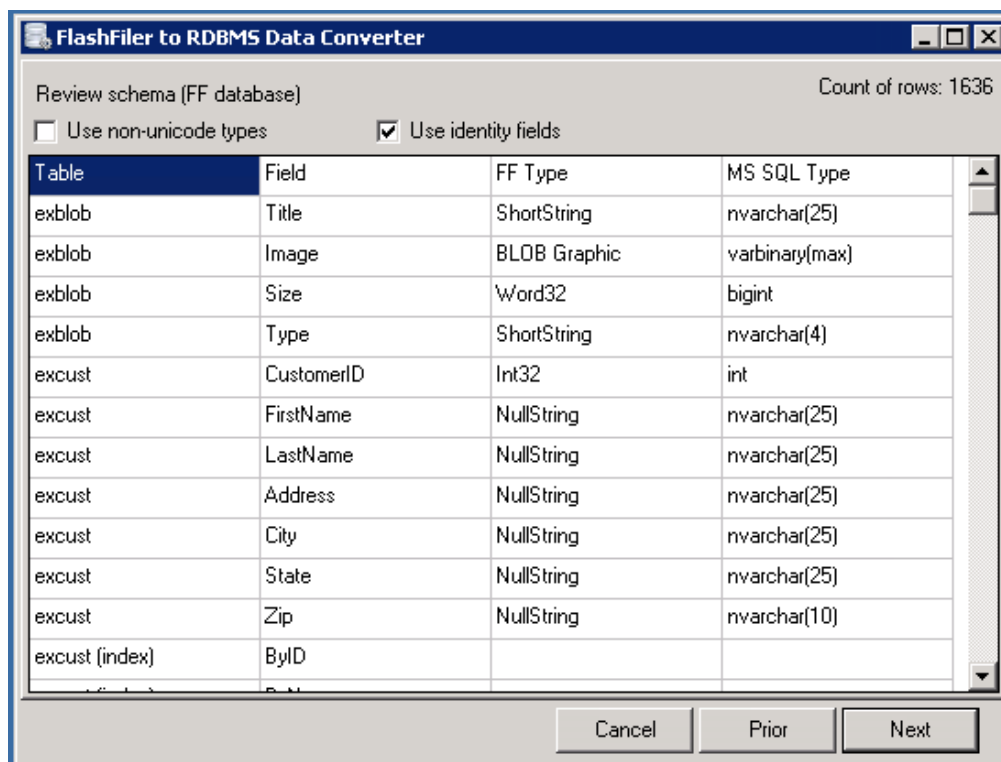
Finally, enter the connection information for your destination database. The screen will look differently depending on which database type you chose. Note that you must create the new empty database yourself, then provide credentials to access it here. The software does not actually create the destination database, rather it populates an existing empty destination database.
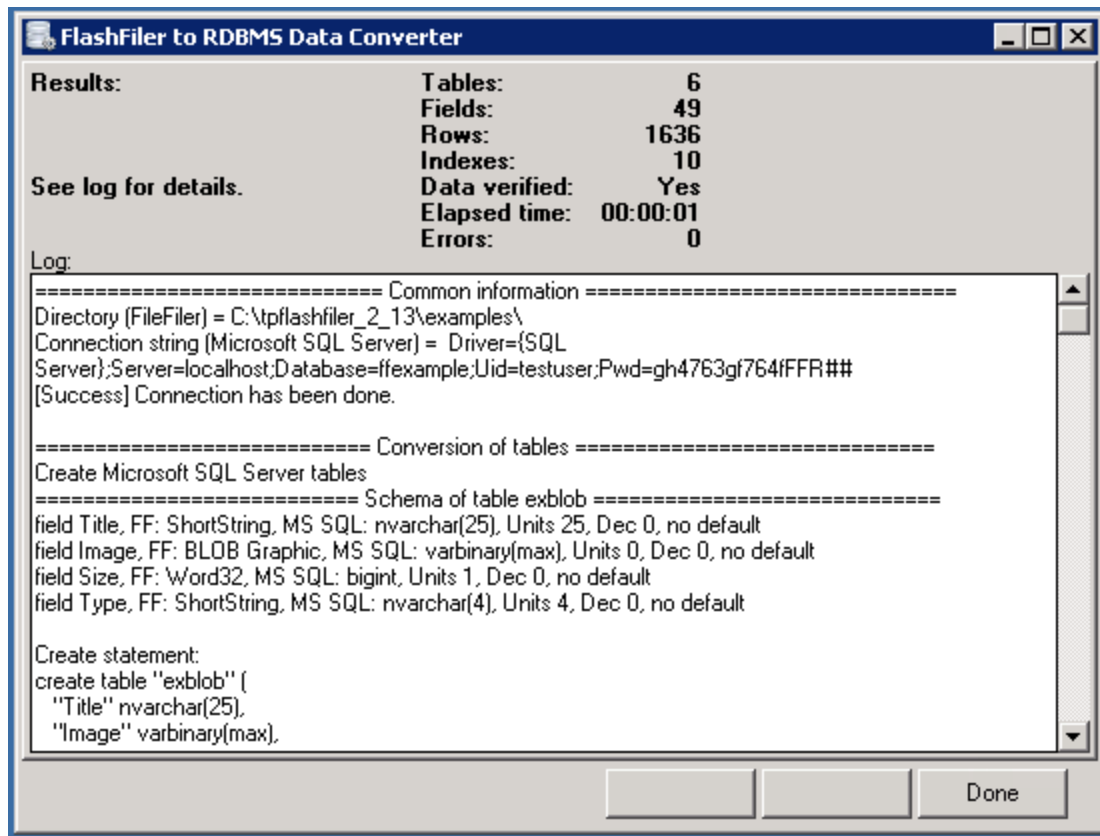

In the next screen, choose whether to convert all the data or just part of it (very helpful when experimenting with a large FlashFiler database):

The conversion will then run, finally yielding a summary screen:

Beware that all settings are showing on this screen (and log file), **including the password** you entered.

Process Flow

The conversion process happens in several "passes".

Pass 1: Table Definitions

Loop over all tables in the FlashFiler database. For each table, create a matching table in the destination database. For each field, create a matching field of the destination database.

During this pass, the software converts from FlashFiler field types to destination field types. FlashFiler uses a variety of proprietary field types, and we have attempted to convert all of them in a reasonable way. Default values are also converted.

In addition to running the SQL for table creation, a SQL script is also saved.

Pass 2: Data

Loop over all of the tables. For each table, over all of the rows in the source database, and copying those rows to the destination database. Data types may need to be converted. It is that all of the data be preserved. For example, if a field contains the date and time, it must be saved as date and time.

For performance reasons, rows are inserted in transactions of 1000 rows

Pass 3: Indexes

In this pass, the data will already be complete, so it is time to add indexes. Loop over all of the source tables. For each table, over all of the indexes. Create a matching index in the destination (SQL Server) database.

The software handles multi-field indexes correctly, as well as UNIQUE indexes correctly

The index SQL should always be saved to a SQL script. There is an option in the UI to skip index creation, in case you want to run it later instead.

Pass 4: Verify

This is a final check that the process happened correctly. Loop over all the table in the source database. Compute number of rows. Compare to number of rows in that table in the destination database.

Other Details

All of the above description implies that only the destination database is being modified; the software does not change the source FlashFiler database. However, **we recommend always backing up your FlashFiler database nonetheless**.

PostgreSQL, Tools, Drivers

This section is only relevant if you use PostgreSQL - for MS SQL Server, just install it in the normal way.

If you use the current PostgreSQL installer (available online, from EnterpriseDB: link), it will offer "Stack Builder" at the end of the install process. This allows you to choose extra software to install. **Choose the ODBC driver**. That driver is used by this converter software, via ADO.

The installer will also include PGAdmin (automatically). This tool is used to create databases, explore their contents, etc.

Typical Use

For simple FlashFiler databases, this tool may yield an immediately useful RDBMS database. For complex data, a process more like this is recommended:

1. Use this software for an initial conversion
2. Write and run a SQL script to modify the resulting database:

   - purge unwanted data and tables
   - rename tables and fields
   - drop undesired indexes
   - add desired indexes
   - clean up data that stands in the way of Foreign Keys
   - add Foreign Keys
   - add helpful views, SPs, other feature that exist in an RDBMS but not in FlashFiler

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Support and Questions

This software is offered "as is", without any promise of support. However, you may contact Oasis Digital with questions:

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