Supercharge Your SAS/ACCESS® Queries One Option at a Time

"This program should run much faster! What can I do to make it run like a Ferrari?" We've all been there; it is painful. Fortunately, SAS/ACCESS®software provides the tools you need to make your database queries fast. This presentation details a handful of tricks used by the SAS/ACCESS masters to make data access sing. You will be able to go home and impress all your friends.

Tuesday, April 10: 4:30 PM - 5:00 PM
SD314
SAS Super Demo
Colorado Convention Center
Room: The Quad - Super Demo 3

Options discussed:

- SASTRACE=',,,d'
- INSERTBUFF=
- READBUFF=
- AUTOCOMMIT=
- DBCOMMIT=
- DBIDIRECTEXEC=

Take Away:

Thanks to SAS data set and LIBNAME statement options, SAS/ACCESS products are extremely tunable. Knowing the options available for your database can help you a great deal. It is important to read the database specific chapter of the SAS/ACCESS doc. Unfortunately, reading a manual is the last thing we want to do.

Snowflake:

I chose to use Snowflake because it is cloud-only and I find it very interesting. The cloud aspect causes exaggerated performance characteristics. In other words, it multiplies the effects of the SAS options enabling us to see the benefits.

Understand:

SASTRACE= It is important to know how to find the SQL that is being sent to the database. This SQL can be used by your DBA to determine how the database is approaching the query. This information can help your DBA tune your database.

INSERTBUFF= and READBUFF= Tuning buffer sizes can greatly increase performance. In my Snowflake experimentation I discovered that my code would take forever if I didn't use these options. I used SAS/ACCESS Interface to ODBC for this work. Our database specific SAS/ACCESS engines try to figure-out good values for these options. ACCESS to ODBC does not do this – it is important to specify these options and set the values to reasonably large values (what in the world does that mean?). 32000 isn't a bad starting point. Testing is required in order to find an optimal setting. The optimal value depends on the size of the data rows. Rule: Don't accept default values for this options when using ACCESS to ODBC.

AUTOCOMMIT= and DBCOMMIT= These options affect database processing. The defaults depend on the database being used. I would set them deliberately before starting your experimentation.

Results:

I used the following two LIBNAME statements:

```
libname snowfast odbc dsn='snowflake_DSN'
                      schema=SGFDEMO
                      user=jbailey pw=passwd123
                      dbcommit=32000 autocommit=no
                      readbuff=32000 insertbuff=32000;


libname snowslow odbc dsn='snowflake_DSN' schema=SGFDEMO
                      user=jbailey pw=passwd123;
```

The **snowslow** LIBNAME statement resulted in a such painful performance that I quit using it. For example, jobs that would run in minutes using **snowfast** would not finish overnight with **snowslow**. The lesson, specify these options.

DBIDIRECTEXEC – see this SAS Communities article.

DBIDIRECTEXEC: GOFAST=YES for Database Processing – by yours truly.

I have seen this option allow hours-long jobs to run in seconds. True story!

Thanks for reading,

Jeff

https://www.linkedin.com/in/jeffreydbailey/

http://jbailey.io – There is nothing there yet, but there will be.