

Silo - Bug # 419: DBCreate segfaults when it fails to open the file when using the PDB driver

Status:	Resolved	Priority:	Normal
Author:	Jakob van Bethlehem	Category:	
Created:	10/08/2010	Assigned to:	Mark Miller
Updated:	08/29/2012	Due date:	
Likelihood:	2 - Rare		
Severity:	4 - Crash / Wrong Results		
Silo Found in Version:	4.7.2		
OS:	All		
Support Group:	Any		
Subject:	DBCreate segfaults when it fails to open the file when using the PDB driver		
Description:	<p>Suppose I have the following:</p> <pre>string const dbname("output/3d_outplace.silo");</pre> <p>And somewhere along in the code:</p> <pre>DBfile *silodb = DBCreate(dbname.c_str(), DB_NO_CLOBBER, DB_LOCAL, NULL, DB_PDB);</pre> <p>Now suppose that the directory 'output' doesn't exist yet. In that case the file can't be created. When using the DB_PDB as above, a 'Segmentation fault' results.</p> <p>However, if I do the same with the HDF5 driver:</p> <pre>DBfile *silodb = DBCreate(dbname.c_str(), DB_NO_CLOBBER, DB_LOCAL, NULL, DB_HDF5);</pre> <p>In this scenario a clear error message results and the program continues, allowing to check for NULL on this pointer and deal with it accordingly:</p> <pre>DBCreate: File not found or invalid permissions: output/3d_outplace.silo</pre> <p>I'd suspect this is a bug in the standard PDB driver. A simple work-around is to use the HDF5 driver, even though that introduces (maybe unwanted) dependencies into the code.</p> <p>Other info:</p> <pre>\$ uname -a Linux feynman 2.6.18-194.17.1.el5 #1 SMP Wed Sep 29 12:50:31 EDT 2010 x86_64 x86_64 x86_64 GNU/Linux</pre> <pre>\$ g++ --version g++ (GCC) 4.1.2 20080704 (Red Hat 4.1.2-48)</pre> <p>Invocation of ./configure script with HDF5:</p> <pre>\$./configure --prefix=\$STOWDIR/silo-4.7.2_h5/ --enable-silex --enable-browser --with-hdf5=\$MYSOFT/include,\$MYSOFT/lib</pre> <p>For the PDB version it doesn't make a difference if the library was built with or without the HDF5 driver (eg: I have tried both methods and they give the same outcome)</p>		

History

01/06/2011 11:00 pm - Mark Miller

- Target version set to 4.9

- Estimated time set to 2.00

I think it would work if you had DB_CLOBBER instead of DB_NO_CLOBBER. There is logic in Silo to handle this (above the drivers) but I am guessing it is triggered only for the CLOBBER case.

08/29/2012 02:21 pm - Mark Miller

- *Status changed from New to Resolved*
- *Assigned to set to Mark Miller*
- *Priority changed from Urgent to Normal*
- *Estimated time changed from 2.00 to 0.25*
- *Likelihood changed from 5 - Always to 2 - Rare*

I set priority to normal and likelihood to rare as across silo usage that I am aware of this, this comes up very rarely. Nonetheless, I have found and fixed the problem.