

TS-518B

***SAS/ACCESS® Guidelines for Connecting to
INFORMIX® Databases in the UNIX® Environment***

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Abstract

Due to the increased interest of the SAS/ACCESS Interface to INFORMIX product in the UNIX environment, this topic has been a popular discussion for a number of SAS users. This paper documents the necessary steps and clarifies the issues involved with connecting to INFORMIX databases using SAS/ACCESS on UNIX platforms.

Introduction

The SAS/ACCESS Interface to INFORMIX product only includes support for the SQL Procedure Pass-Through Facility. The ACCESS and DBLOAD Procedures are not available for the INFORMIX interface.

The SAS/ACCESS product, in general, consists of three procedures: PROC ACCESS, PROC DBLOAD and PROC SQL Pass-Through. However, all three of these procedures may not be available for every relational database system (DBMS) on every UNIX platform. Users should be familiar with what procedures their SAS/ACCESS product supports for their platform. An addendum has been included for the SAS/ACCESS Interface to INFORMIX support.

The DB-Access utility is available with INFORMIX to provide users the capability to retrieve and create data stored in the INFORMIX database. Users or the Database Administrator (DBA) should be familiar with this utility because it can make the SAS/ACCESS connection process much easier.

The discussion, necessary steps, and examples that follow were run on an HP-UX system using SAS 6.11 TS020, and demonstrate the use of the INFORMIX utility, DB-Access and successful connections to databases using SAS/ACCESS.

Using the INFORMIX DB-Access Utility

In order to connect to an INFORMIX database locally or remotely from SAS, you must be able to connect to the same database outside of SAS. You can establish a connection outside of SAS by using the INFORMIX DB-Access utility.

*Once a successful database connection is made using DB-Access, you should be able to connect to the same database(s) from within SAS with the **same** environment and userid. Below are some simple steps to verify whether you are able to connect to an INFORMIX database outside of SAS successfully.*

- 1) *Invoke the INFORMIX DB-Access menu system:*

```
unix_prompt> dbaccess
```

- 2) *Once you successfully invoke the INFORMIX DB-Access menu system, you will receive a menu similar to the following. If you are having problems invoking DB-Access, you will need to contact your DBA or INFORMIX Technical Support for assistance.*

```
DBACCESS: Query-language Connection Database Table Session Exit
Use SQL query language.
----- Press CTRL-W for Help -----
```

- 3) *From the DB-Access MAIN menu, space over to the CONNECTION option and press return.*
- 4) *From the CONNECTION submenu, space over to the CONNECT option and press return.*
- 5) *You must select a database server listed under the submenu, SELECT DATABASE SERVER, by using the arrow keys to move to the database of your choice and pressing return.*
- 6) *Select a database listed under the submenu, SELECT DATABASE, by using the arrow keys and pressing return.*
- 7) *Now EXIT the CONNECTION submenu, by spacing over to the EXIT option and pressing return. This will return back to the MAIN DB-Access menu.*
- 8) *Select the QUERY-LANGUAGE option from the MAIN menu by using the spacebar and pressing return.*
- 9) *To verify that you have been granted the appropriate privileges, submit an SQL query from DB-Access, similar to what you plan to submit from within SAS. If you experience problems with privileges, submitting SQL or any of the menu selections from DB-Access, you will need to contact your DBA or INFORMIX Technical Support for assistance.*

From the SQL submenu, select the NEW option and enter a valid SQL query similar to the following: (where tbl_name is a valid table name in the database that you are connected):

```
select * from tbl_name;
```

This should return data from the table that satisfies your query. If not, contact your DBA or INFORMIX Technical Support for assistance.

- 10) *You have just demonstrated that you can connect to an INFORMIX database outside of SAS. Before you attempt to bring up SAS and try to connect using the SAS/ACCESS SQL Procedure Pass-Through Facility, be sure that you use the **exact** database and table names that you used with the INFORMIX DB-Access utility.*

Using SAS/ACCESS Interface to INFORMIX

Before you attempt to connect to an INFORMIX database using SAS/ACCESS, you must be able to connect to the same database outside of SAS using the INFORMIX DB-Access utility as demonstrated above. Once you have verified that you can connect to the database(s) using DB-Access, you should be able to connect to the same database(s) from within SAS, assuming the following requirements have been met.

- *You are invoking SAS using the **exact** environment and userid used to invoke DB-Access and to connect to the database(s) successfully.*
- *Make sure that the !SASROOT/sasexe/dbi/sasnfx module, along with all other INFORMIX related modules in this directory, have read and execute permissions. For dual SAS installations on SUN systems, this module can be found in !SASROOT/solaris2/sasexe/dbi for Solaris 2 platforms.*
- *You have successfully performed the SAS/ACCESS Interface to INFORMIX Installation Instructions from APPENDIX B of the "Installation Instructions for the SAS System under UNIX Environments".*
- *Make sure that the environment variable \$INFORMIXDIR is set to the location of the home/root directory of INFORMIX*

Once the above requirements have been met, you should be able to successfully connect to the INFORMIX database(s) using the following steps:

- 1) *Invoke SAS with the **exact** environment and userid you used when you successfully connected to the database(s) using the DB-Access utility.*
- 2) *To verify your ability to successfully connect to an INFORMIX database, submit the following PROC SQL Pass-Through code from the SAS Program Editor. Be sure the db_name and tbl_name are the same values used with the INFORMIX DB-Access utility.*

```
proc sql;
connect to informix(database=db_name);
  select * from connection to informix
    (select * from tbl_name);
disconnect from informix;
quit;
```

NOTE: *If the INFORMIX environment variable, \$DBDATABASE, is set to the database you want to connect to, the database= option is not required. If this environment variable is set, you can also omit the connect statement because an implicit connection is performed when the select or execute statement is passed to INFORMIX.*

- 3) *If, when using SAS/ACCESS, you are unable to connect to the **exact** INFORMIX database from the exact same environment and userid that you were able to successfully connect to using the INFORMIX DB-Access utility, then contact SAS UNIX Technical Support at (919) 677-8008 and have the following information available:*
- *the exact operating system release level and machine type*
 - *the exact INFORMIX release level and is it INFORMIX-SE or INFORMIX-ONLINE?*
 - *is the INFORMIX database local or remote?*
 - *the environment variable settings*
 - *the results from the steps documented above for both "Using the INFORMIX DB-Access Utility" and "Using SAS/ACCESS."*
- 4) *If you have connected successfully and want more details on using the SQL Procedure Pass-Through Facility, reference the SAS manuals listed in the CONCLUSION of this paper.*

Conclusion

This paper discussed the various aspects of connecting to INFORMIX databases with both the INFORMIX DB-Access utility outside of SAS and with SAS using the SAS/ACCESS Interface to INFORMIX product on UNIX platforms. This discussion includes details and examples of using the DB-Access utility and the SAS SQL Procedure Pass-Through Facility.

For detailed information on the DB-Access commands and menus used in this report, please refer to your INFORMIX reference manuals or ask your Database Administrator for assistance.

For detailed information on the SAS SQL Procedure Pass-Through Facility, reference the following manuals:

SAS/ACCESS Software for Relational Databases Reference, Version 6 (# 55144)

SAS/ACCESS Software Changes and Enhancements, SQL Procedure Pass-Through Facility, Version 6 (# 55237)

SAS/ACCESS Interface to INFORMIX Technical Report, SQL Procedure Pass-Through Facility, Release 6.09 (# 55119)

SAS Software Changes and Enhancements, Release 6.11 (# 55300)

Getting Started with SAS/ACCESS Software, Version 6 (# 55103)

SAS/ACCESS INTERFACE TO INFORMIX SUPPORT ADDENDUM

6.07 PLATFORMS

<u>Platform</u>	<u>Ingres</u>
1. SUN4	N/A
2. HPU8	N/A
3. AIXR	N/A

6.09 PLATFORMS

<u>Platform</u>	<u>Informix</u>
1. SUN4	TS037 *SQL passthrough
2. SOL2	TS037 *SQL passthrough
3. HPU8	TS037 *SQL passthrough
4. AIXR	TS037 *SQL passthrough

6.10 PLATFORMS

<u>Platform</u>	<u>Informix</u>
1. Alpha/OSF	N/A
2. MABI	
- SGI	N/A
- Pyramid	N/A
3. IABI	
- NCR	N/A
- Sequent	N/A

6.11 PLATFORMS

<u>Platform</u>	<u>Informix</u>
1. SUN4 & SOL2	TS020 *SQL passthrough
2. HPU8	TS020 *SQL passthrough
3. AIXR	TS020 *SQL passthrough
4. Digital UNIX	N/A
5. MABI	
- SGI	N/A
- Pyramid	N/A
6. IABI	
- NCR	N/A
- Sequent	N/A

6.12 BETA PLATFORMS

<u>Platform</u>	<u>Informix</u>
1. SUN4 & SOL2	TS005 *SQL passthrough
2. HPU8	TS005 *SQL passthrough
3. AIXR	TS005 *SQL passthrough