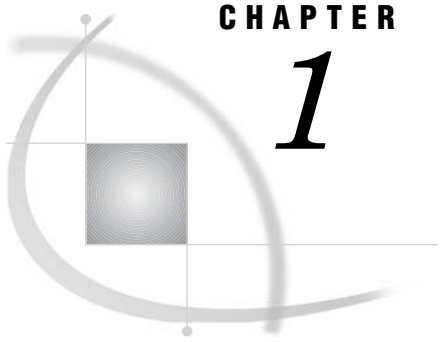


CHAPTER

1

Overview of the SAS/ACCESS Interface to ADABAS

Introduction to the SAS/ACCESS Interface to ADABAS

This section introduces you to SAS/ACCESS software and briefly describes how to use the interface. This section also introduces the sample ADABAS data, SAS/ACCESS descriptor files, and SAS data files used in this document.

Purpose of the SAS/ACCESS Interface to ADABAS

SAS/ACCESS software provides an interface between SAS and the ADABAS database management system (DBMS). With the SAS/ACCESS interface, you can perform the following tasks:

- create SAS/ACCESS descriptor files using the ACCESS procedure
- directly access ADABAS data from within a SAS program using the SAS/ACCESS descriptor files created with the ACCESS procedure
- extract ADABAS data and place it in a SAS data file using the ACCESS procedure, the DATA step, or other SAS procedures
- update ADABAS data using the SQL procedure, SAS/FSP software, SAS/AF software, and the APPEND procedure.

The SAS/ACCESS interface consists of two parts:

- the ACCESS procedure, which you use to define the SAS/ACCESS descriptor files
- the interface view engine, which enables you to use ADABAS data in SAS programs in much the same way as you use SAS data files.

The ACCESS procedure enables you to describe ADABAS data to SAS. You store the description in SAS/ACCESS descriptor files, which you can use in SAS programs much as you would use SAS data files. You can print, plot, and chart the data described by the descriptor files, use it to create other SAS data sets, and so on. Several examples of using ADABAS data in SAS programs are presented in Chapter 3, “ADABAS Data in SAS Programs,” on page 17. Using SAS/ACCESS descriptor files to update ADABAS

data from within a SAS program is shown in Chapter 4, "Browsing and Updating ADABAS Data," on page 37.

The interface view engine is an integral part of the SAS/ACCESS interface, but the interface's design is transparent, so you seldom have to deal directly with the engine. SAS automatically interacts with the engine (via the SAS/ACCESS descriptor files) when you use ADABAS data in your SAS programs. SAS and the interface view engine do much of the work automatically, so you can simply use ADABAS data in SAS programs in much the same way you use SAS data.

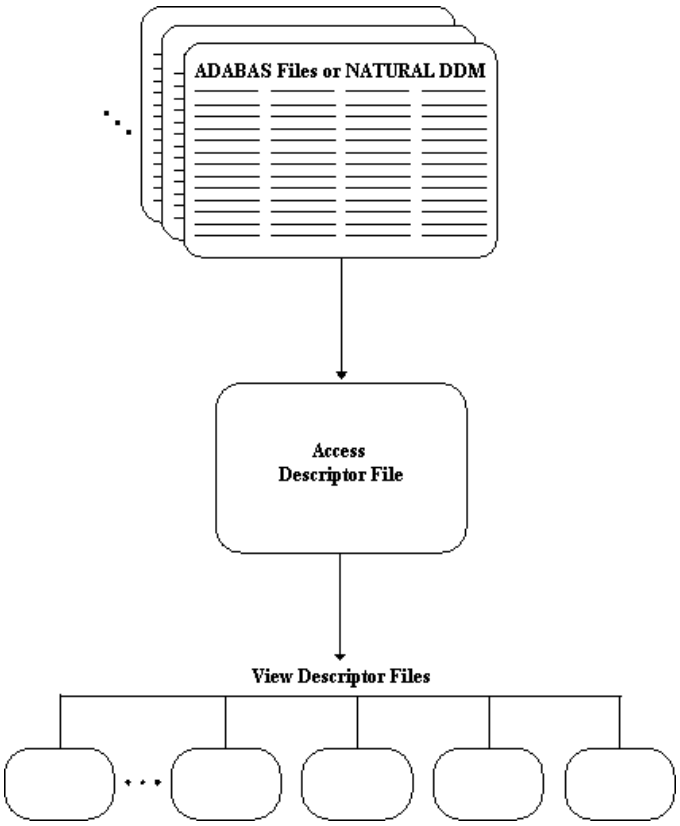
SAS/ACCESS Descriptor Files for ADABAS

SAS/ACCESS software uses SAS/ACCESS descriptor files to establish a connection between SAS and ADABAS. You create these files with the ACCESS procedure.

There are two types of SAS/ACCESS descriptor files: *access descriptors* and *view descriptors*.

The following figure illustrates the relationship among ADABAS data, an access descriptor, and view descriptors.

Figure 1.1 Relationship among ADABAS Data, an Access Descriptor, and View Descriptors



Access Descriptor Files

Access descriptor files are of member type ACCESS. Each access descriptor holds essential information about the ADABAS data you want to access, for example, the ADABAS file number or NATURAL Data Definition Module (DDM) name, the data field names, and their data types. It also contains corresponding information related to SAS, such as the SAS variable names, formats, and informats.

An access descriptor can describe only one ADABAS file or DDM; that is, you cannot join two ADABAS files or DDMs with a single access descriptor.

View Descriptor Files

View descriptor files are sometimes called *views* because their member type is VIEW. This document uses the term *view descriptor* to distinguish them from views that are created by the SAS SQL procedure.

Each view descriptor can define all of the data or a particular subset of the data described by one access descriptor (and therefore one ADABAS file or DDM). For example, you might want to use only three or four possible data fields and only some of the logical records. The view descriptor enables you to select the data fields you want and, by specifying selection criteria, to select only the specific data you want. For example, your selection criteria might be that the date of transaction is July 3, 1998, and that customers' names begin with W.

Typically, for each access descriptor, you will have several view descriptors, selecting different subsets of data.

You can join data from multiple ADABAS files or NATURAL DDMs with SAS SQL procedure. The SQL procedure can join data from SAS data files, PROC SQL views, and SAS/ACCESS view descriptors into one resulting file. In addition, SAS/ACCESS view descriptors can come from different database management systems. For examples that use the SQL procedure, see Chapter 3, "ADABAS Data in SAS Programs," on page 17 and Chapter 4, "Browsing and Updating ADABAS Data," on page 37.

Example Data in the ADABAS Document

This document uses several NATURAL DDMs to show you how to use the SAS/ ACCESS interface to ADABAS. The data was created for an international textile manufacturer. This company's product line includes some special fabrics that are made to precise specifications. The DDMs are named CUSTOMERS, EMPLOYEE, INVOICE, and ORDER. All the data is fictitious.

The ADABAS data is designed to show how the interface treats ADABAS data. It is not meant as an example for you to follow in designing ADABAS files or NATURAL DDMs for any purpose.

Appendix 3, "Example Data," on page 131 gives more information about the ADABAS data, SAS/ACCESS descriptor files, and SAS data files used in examples. The information about the ADABAS data includes the ADABAS statements that created each file, the data each ADABAS file contains, and a description of the NATURAL DDMs. The information about the SAS/ACCESS descriptor files includes their definitions and any selection criteria that were specified for them. The information about the SAS data files includes the SAS statements that created each data file and the data that each contains.