

## Paper 274-26

## Cool New Stuff in Version 8 For MVS

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**ABSTRACT**

The SAS Institute recently released SAS version 8 for MVS. This long awaited upgrade from version 6.09 boasts many new and improved features. There are now several functions that you can use to handle external files and SAS data sets. There are also several new options to help you take better control of your SAS session. Guess what? The much loved Output Delivery System® is also supported. Now, among other things, you can save your output to HTML and print to a high resolution printer, and you can create output SAS data sets from every procedure. Is that all? No way. There are several enhancements that are sure to excite you. For example, improved indexes, improved data set compression, expanded formats and informat, and expanded naming rules. This paper will provide an overview of the author's favorite new stuff found in version 8 for MVS.

**INTRODUCTION**

Well, believe it or don't, it's finally here. SAS version 8 for MVS (OS/390). If you are like me, you have been waiting for years to move up from version 6.09. Now you can. And there are some excited new features and some great enhancements. In this paper, I will highlight several of the Base SAS features that most interest me most.

**MAJOR BRAND NEW STUFF****THE OUTPUT DELIVERY SYSTEM**

If you thought the wonderful Output Delivery System (ODS) was something reserved for the Windows environment, think again. ODS is now part of SAS version 8 for MVS! If you haven't already seen ODS in action you've been missing out. ODS gives you fantastic control over your procedure output. With ODS you have the ability to:

- i generate HTML files that contain formatted results and that contain links to the results in the form of a table of contents
- i generate output for a high-resolution printer
- i generate output data sets from procedure output
- i customize the procedure output by creating templates that you can use whenever you run the procedure.

**EXTERNAL FILE I/O FUNCTIONS:**

SAS has added many wonderful file handling functions to manage external files. Here are a few of my favorites.

- i DCLOSE closes a directory.
- i DINFO returns information about a directory.
- i DNUM returns the number of members in a directory.
- i DOPEN opens a directory.
- i DOPTNAME returns directory attribute information.
- i DREAD returns the name of a directory member.
- i FCLOSE closes an external file, directory, or directory member.
- i FDELETE deletes an external file.
- i FEXIST verifies the existence of an external file that is associated with a fileref.
- i FILEEXIST verifies the existence of an external file by its physical name.
- i FILENAME assigns or deassigns a fileref for an external file, directory, or output device.
- i FILEREF verifies that a fileref has been assigned for the current SAS session.
- i FINFO returns a file information item.
- i FOPEN opens an external file.

- i FOPTNAME returns the name of an item of information about a file.
- i FOPTNUM returns the number of information items that are available about an external file.
- i PATHNAME returns the physical name of a SAS data library or an external file.

**DATA STEP STATEMENTS**

SAS has added some great new statements to the Data Step. Some of them are as follows:

- i SASFILE requests that a SAS data set be opened and that enough buffers be allocated to hold the entire data set in memory.
- i WHERE used with OBS= and/or FIRSTOBS= processing to conditionally select a subset of data before DATA Step processing.
- i LOCK acquires an exclusive lock on an existing SAS file.

**GENERAL FUNCTIONS**

SAS has added several new functions.

- i GETOPTION returns the value of a SAS system option or graphics option.
- i IORCMMSG returns a formatted error message for \_IORC\_.
- i MISSING returns a numeric result that indicates whether the argument contains a missing value.
- i SLEEP suspends the execution of a SAS DATA step for a specified period of time and returns a value.
- i SYSGET returns the value of the specified operating environment variable.
- i SYMSMG returns the text of error messages or warning messages from the last data set or external file function execution.
- i SYSRC returns a system error number.

**BIG DEAL ENHANCEMENTS****SAS I/O ENHANCEMENTS**

Version 8 of SAS for MVS boast some impressive enhancements to input/output processing. Here are some of my favorites.

- i Long Variable Names and Expanded Rules for SAS Names
- i Increased Support for Multivolume SAS Data Libraries
- i Logical Concatenation of SAS Libraries
- i Generation Data Sets
- i Indexing Enhancements
- i Enhancements for Compressed Files
- i Libname Function to Assign or Deassign a Libref for a Sas Data Library and Returns a Value
- i Libref Function That Verifies That a Libref Has Been Assigned and returns a value
- i Improving I/O Performance with the BUFSIZE= Option

**DATA SET FUNCTIONS**

There are also many new functions to use with your data sets. Here are a few.

- i CLOSE closes a SAS data set.
- i CUROB returns the observation number of the current observation.
- i EXIST verifies the existence of a SAS data library member.
- i FETCH reads the next nondeleted observation from a SAS data set into the Data Set Data Vector.

- i FETCHOBS reads a specified observation from a SAS data set into the Data Set Data Vector.
- i NOTE returns an observation ID for the current observation of a SAS data set.
- i OPEN opens a SAS data set.
- i POINT locates an observation that is identified by the NOTE function.

#### DATA SET VARIABLE FUNCTIONS

SAS has added some very useful new functions that return information about data sets variables:

- i GETVARC returns the value of a SAS data set character variable.
- i GETVARN returns the value of a SAS data set numeric variable.
- i VARFMT returns the format that is assigned to a SAS data set variable.
- i VARINFMT returns the informat that is assigned to a SAS data set variable.
- i VARLABEL returns the label that is assigned to a SAS data set variable.
- i VARLEN returns the length of a SAS data set variable.
- i VARNAME returns the name of a SAS data set variable.
- i VARNUM returns the number of a SAS data set variable's position in a SAS data set.
- i VARTYPE returns the data type of a SAS data set variable.

#### DATE AND TIME FORMATS

SAS has increased the usefulness of date formats by added the following new formats:

- i DATEAMPWw.d writes date/time values (ddmmyy:hh:mm:ss.ss) with AM or PM.
- i DDMMYYxw. writes date values in the form ddmmyy or ddmmyyy and specifies separators or no separators between date values.
- i MMDDYYxw writes date values in the form mmddy or mmddyyy and specifies separators or no separators between date values.
- i TIMEAMPWw.d writes hours, minutes, and seconds with AM or PM.
- i YYMMDDxw. writes date values in the form yymmdd or yyyymmdd and specifies separators or no separators between date values.

#### DATE AND TIME FUNCTIONS

Have you ever needed to calculate the differences between two dates? Now you can easily with these new date functions:

- DATDIF returns the number of days between two dates.
- YRDIF returns the difference in years between two dates.

#### DATA STEP NAMING ENHANCEMENTS

SAS has increased the length of variable names and the values that can be stored in them. In the DATA step, variable names (including array names), window names, and statement labels may now consist of up to 32 characters. And, a variable name can contain mixed case. The character variable value length is now 32,767!

#### DATA STEP FORMATS AND INFORMATS

Here's a couple cool new enhancements to data step functions:

Character formats and informats can handle strings up to 32,767 characters (32K) long. The DOLLARw.d, DOLLARXw.d, COMMAw.d, and COMMAXw.d formats no longer restricted to 0 or 2.

#### CONCLUSION

SAS version 8 for MVS is a long awaited upgrade.

#### REFERENCES

The SAS System for OS/390: What's New in Releases 8.0 and 8.1

#### CONTACT INFORMATION

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