A new version of MXG was released in January this year and the news relating to VM users is discussed in this paper. Also the SAS/CPE Starter Set for VM, which has just gone production in Europe, is covered. After relating the new features of these two products, a combination of the two will be investigated. The concept of a starter set is extended to include a number of tools, which will help one carry out daily analysis.

MXG Version 6.6

MXG 6.6 was released January 21, 1989. MXG is a performance tool based on the SAS system. It supports the full range of IBM mainframe operating systems from MVS, MVS/XA, MVS/ESA, VM/SP, VM/XA and DOS/VSE. MXG software is now over 100,000 lines of SAS code in 910 members. It produces 18070 SAS variables and 552 datasets. These are the figures for all of the operating systems mentioned above. 203 of the 910 members, and 137 of the 552 datasets are VM related.

Some of the highlights in the new version of MXG for VM users are:

- support for SQL/DS accounting records
- support for EXPLORE/VM from Goal Systems
- a number of fields in prior releases that were inaccurate have been changed and validated.
- work on the VM/SP Release 6 shared file system accounting records has started. This did not quite make the production release of Version 6, but will certainly be available in the next release.

However, the big news in Version 6 for VM users is that MXG now supports VM/XA SP1 and SP2. MXG will read VM/XA monitor records produced by the IBM supplied MONWRITE module, which can be either on disk or tape. The collection of monitor data in VM/XA is somewhat different from previous non-XA versions. The VM/XA monitor writes performance data to a predefined discontiguous saved segment (DCSS). At specific times during the monitoring interval the MONWRITE program reads the data that has been collected in the segment and outputs it to disk or to tape.

MXG will then process this data producing 75 different datasets and over 1300 variables. 35 different reports are produced from this analysis. It has been rumoured that IBM FRF look a like will be available some time in the future too. Now there is some good news and there is some bad news. The good news is that there is now a consistent nomenclature. The IBM naming convention is followed, so that a variable in domain ddd, record rrr, whose name is mmrr is stored in a dataset VXdddrrr as the variable mmrr. The bad news though is that there are now variables in different datasets with the same name. This will have to be taken into account when doing any merging etc.
Starting in Version 6 of MXG software is suite of new style macros for long term trending. The main macro is called VMXGSUM. This is the start of the "fabled" trend database. This will be used for long term performance analysis. strategies. "Five years data in 5 cylinders" - is the claim. Currently, it is only being used in MVS members, but the macro itself is available for use.

**SAS/CPE Starter Set for VM**

The SAS/CPE Starter Set for VM is a fullscreen frontend application to allow performance analysts to produce reports they know quickly without having to know SAS. It is written using base SAS software, and will produce high-resolution graphics if you have SAS/GRAPH. The system may be tailored if you have SAS/AF. A prerequisite for the system is that you have MXG.

The MXG software is used to preprocess the data. The starter set then uses these refined datasets for its analysis. Graphs created during the session are stored in a graphics catalog. It is then very easy to replay the graphs at some later stage.

The starter set concept has grown into more than just a frontend system for producing well known graphs and reports. It is now seen as encompassing anything that might help you get started in performance analysis using the SAS system. One of the first areas that was addressed was the installation of the software. An installation procedure has been written, which is full screen and is tailorable. This means that it is now possible to select, by operating system, the members from the tape. It is no longer necessary to load the entire MXG library, occupying precious cylinders of disk space. Simply mark the operating systems required with an 'X' and the installation is carried out for you. This includes the building of the source and format libraries.

In the longer term though, further building blocks will be added to our solid foundation of MXG software. The main areas to be addressed are: Installation, Operation, Output and Education.

- **Installation:** We have seen some extras in this area already.

- **Operation:** These tools will help in your day to day running of performance data gathering, processing and management. In this area we are looking into a scheduling machine, with which you can specify times and dates of when programs will be run.

- **Output:** The addition of user requested reports.

- **Education:** Finally, we will be looking at a VM course for MXG.

So the starter set will provide an easy installation procedure, help in the daily management of your PDB, produce more of the reports you need. Also more manageable documentation and VM/VSE targetted education are in the pipeline.