THE SAS® SYSTEM, RELEASE 6.06:
A USER'S FIRST IMPRESSION

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Abstract
At Gothenburg Universities' Computing Centre (Goteborgs Datacentral) we have had the opportunity to test the new version of the SAS System, version 6.06. Our main test environment has been VM/XA™ CMS but we have also had access to the 6.06 version in other environments.

What do we think of all the new features? Are they hard to learn? When one has learned to use them, are they useful? What do we like best? Is there anything we do not like? Was it hard to install? Any reaction from the end users?

In this paper we will try to answer these questions and others and try to share some of the experience we have collected during the test period.

Will also take a look at how things did turn out. What has happened at our site since this paper was originally written in the spring of 1990.

Conclusion
If you can do without having the SUGI Supplementary Library Procedures or other user-written procedures easily accessible, i.e. without mixing versions five and six, install the new SAS release as soon as possible if you haven't done it already.

Paper

Stability
The first question one asks when getting a new system to use is:

“How stable is the product?”

After having run the first beta release for several months we had to say that, at our site, the beta release of version six was more stable than the production release of version five. All problems we had utilized in 5.16 were solved in 6.06 and it worked fine.

Of the users at our site who have been running both version five and six, 85% fully changed to using only version six. This meant that they really had confidence in the product.

News
What is the best news in version six?
In our opinion it is:

Good News
- The multiple engine architecture, MEA, with the library engines, and especially, the new facilities in the version 6.06 library engine, indexing and compressing.
- The possibility to use views of data instead of actual data files.
- The WHERE clause for subsetting data.
- The user interface with pull-down menus, windows, SAS/ASSIST®, and other features.
- The enhancements in SAS/AF® and SAS/FSP® for writing applications.

Some other things we also appreciate a lot are the new procedure GKEYMAP and the graphic windows.

Not so Good News
- The procedures we wrote under version 82.4 and have used in version five cannot be used in version six, they have to be rewritten.
- The SUGI Supplementary Library is missing. For the same reason that we can't use our own procedures, there are no SUGI supplementary procedures.

Installation (CMS specific)
Time
The first thing you have to do is to either install the product or have it installed. To get the system from the tape and up running took about two hours in the VM/CMS environment.

Disk Space
The first thing that struck us when installing was that version six requires less disk space than version five, in spite of all the new features.
When we hold courses for beginners, then we use SAS/ASSIST to get people quickly into The SAS System. After a few hours, people who never touched a keyboard, can produce their own reports from their own data. If you have tried to explain the datasep and the use of procedures to a computer novice, then you know how hard it can be. For beginners, it's a great tool. You can't do everything, but you can do a lot.

I usually use SAS/ASSIST to demonstrate the new features in release 6.06, pull-down menus, pop-up windows, scrollbars, selection lists, and so on. When preparing this paper before the European User Group meeting, SEUGI, in Paris, May -90, we did a small survey, to learn what the users thought of the new system. We were surprised to find out that almost all of them used SAS/ASSIST, more or less. The most frequent comment was - "It really works, and it really is as simple as it seemed when you showed it to me".

Another thing we like with SAS/ASSIST is the possibility to connect our own applications under the EIS button.

**Function Keys**

Is then everything perfect with the user interface? No, of course not. For example, take the function keys.

In a comparison between CMS V5, CMS V6, OS/2® V6 and UNIX® V6 there is one pair that matches when comparing the first four function keys.

<table>
<thead>
<tr>
<th>CMS</th>
<th>CMS</th>
<th>Sun</th>
<th>OS/2</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1</td>
<td>Help</td>
<td>Mark</td>
<td>End</td>
</tr>
<tr>
<td>F2</td>
<td>Split</td>
<td>Smark</td>
<td>Next</td>
</tr>
<tr>
<td>F3</td>
<td>End</td>
<td>Unmark</td>
<td>Next</td>
</tr>
<tr>
<td>F4</td>
<td>Recall</td>
<td>Cut</td>
<td>Zoom</td>
</tr>
</tbody>
</table>

Fig. Function keys

Advice: Open the keys window and set the keys up the way you want them!

**MEA (Multiple Engine Architecture)**

We mentioned that one of the biggest news was the Multiple Engine Architecture and the library engines. We must state, we are impressed by them, and very fond of them.

**Interface Library Engine**

At our university, we have a lot of users running other statistical packages than SAS. Now, even we SAS believers can help those users. Before the engines, even the simplest table used to mean lots of sweat and lots of manual reading. Today, by using an Interface Library Engine we can do almost anything using SAS. Unfortunately, the Interface library engines are read only engines. It would be nice to be able to write and edit files for these products, without leaving SAS.

**Indexes and compression**

When it comes to indexes and compression, that are available under the default library engine, V606, it very much depends on what you want to do if you really can benefit from them. There are a couple of paragraphs in the SAS Language Reference Guide about how, why and when to use indexes and compression.

Advice: Read those paragraphs carefully.

**WHERE Statement**

The where clause is something that really is going to save us CPU and I/O. How often haven't you done a special datasep in front of the procedure, just because you want to take out some of the observations for processing? With the where statement, that datasep isn't necessary any longer. But there is one thing you can't do in the where statement, you can't use functions. That's something we would like to see in a coming version.

**Applications**

**SCL (Screen Control Language)**

In version 6.03, we got the Screen Control Language, SCL, and now in 6.06 it has been enhanced a lot. Some of the new functions are very powerful. This will help us a lot when writing applications.

**Automatic Selection List**

The automatic selection list is something that will save us from a lot of SCL coding. By providing a list of valid values on the field attribute screen, in a list entry, or on a CST screen, that list automatically appears if the user puts a question mark in the field.

**Pull-Down Menus**

The possibility to enter user-written pull-down menus instead of the command line is another thing that will add a lot of user friendliness to our applications. The pull-down menus are produced by the Base SAS procedure PMENU, a procedure that is rather straightforward to use.

**Graphics**

**Proc GKEYMAP**

The last enhancement we will cover in this paper is the new procedure GKEYMAP in SAS/GRAPH®. When using national keyboards (i.e. for nations with more than 26 letters in the alphabet) in combination with "national characters", like in our case - a Swedish keyboard, you never knew what your graphics would look like. The capital "O", "Ö", used to end up like vertical bars |].

In version five making a simple slide with a quotation you could have to use a lot of "hex code".

![Fig. Example of code in version five](image)

In version six, by using the goption "KEYMAP" we can call the key mapping created by Proc GKEYMAP.

![Fig. Example of code in version six](image)

**Other Topics**

Other things we appreciate a lot but don't have room for in this short paper are:
The new application 'Support', which will save us from a lot of phone calls from the end-users.

SYSIN files don't need to be in fixed record format with the record length of 80 any more (in the CMS environment). Since we have a lot of users, running the mainframe from PCs using kermit as terminal emulator software and for uploading files, this is very good news at our site, small but good.

The new style in the documentation, with Usage Guides and Reference Guides.

SAS/CONNECT™, which has worked better in V6 than the Micro-to-Host Link did in V5.

User-written formats can easily be stored in catalogs within a SAS library.

The power of SQL®.

How did things turn out?

After nine months of production, we can summarize that:

- The number of users running version six has increased from 85% to 95%. We expect that figure to reach 100% now when we have access to SAS/TOOLKIT™ and can convert our user-written procedures.

- We have got a lot of new users and have been able to keep these users since the threshold is not as high when starting with release 6.06 compared to beginning with release 5.18.

- The SUPPORT application has not been a hit among the users. There are only a few of them who really use it. Most of them still call us as soon as they encounter a problem.

- SAS/ASSIST has become widely used. It wasn't just the charm of novelty that got users running it. Better data management routines is a frequent wish though.

- The technical support at SAS Institute has caught up with the release of version 6.06.

- New applications that earlier would have been written using conventional programming languages, are more and more often developed using SAS/AF and SAS/FSP.

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