NEW ARCHITECTURE

Converting the philosophy of productivity from words into books for Release 6.06 meant moving away from the way books were written in Version 5. We had to evolve a new architecture for the library.

Version 5 Architecture: All-Purpose User's Guides

Our previous documentation centered on a "User's Guide" for each product. This book tried to be all things to all people. For example, for a given feature of base SAS software, you might find a description, an example, and some footnotes about how the option differed on different operating systems.

As products and features were added and the SAS System spread to new operating systems, the amount of information per feature grew, and so did the difficulty of using the documentation under the old architecture. We noticed two contradictory trends:

1. Existing users wanted more. They asked for more features for products, which extended the length of the books. These users tended to be applications developers and users of statistical features, both technically adept and accustomed to working with our existing documentation.

2. New users wanted less. They asked for quick introductions to the software that covered the essential concepts. They were not sure where to start in the stack of books that was provided with the software—and sometimes they were intimidated by the sheer volume of information.

At the same time, MultiVendor Architecture (MVA) was born. It removed most limits to the portability of the SAS System. In SAS User's Guide: Basics, Version 5 Edition, there were five operating systems documented; differences were handled within footnotes and endnotes. What would happen with this approach when the Institute supported 15 or 20 different operating systems? The original documentation would be difficult to find and to read, buried as it would be among the notes.

Release 6.06 Architecture: Reflecting MVA

Our documentation library corresponds to the MultiVendor Architecture for the SAS System. The SAS System has two important strengths:

1. It is portable: the core and applications layer are the same across all operating systems.

2. It can take advantage of operating system strengths: in general, strengths of an operating system are considered in terms of performance and user interface compliance.

The documentation library is organized to work in the spirit of MVA. It includes:

• portable documentation, which can be used by all users on all systems.
• operating-system-specific documentation, which addresses
  the needs of users on a single system.

The inspiration for the split came partly from following the direction
of the SAS System architecture and partly from users. Your feed-
back frequently indicated that you did not want to see all of the oper-
ating system notes. There were suggestions that operating system
dependencies be discussed in a separate book, such as the Com-
panions.

PORTABLE PRODUCT DOCUMENTATION

The portable documentation can be used with any operating sys-
tem. It is organized by product lines, but within the product line are
the important distinctions in the architecture: what the reader is
attempting to do. We have three types of book, each written to a
unique audience:

• Introduction: for novices who are learning the basics
• Usage: for intermediate users who are learning more
• Reference: for intermediate and expert users who are
looking up the complete details on features

Figure 1 The Three Types of Portable Documentation

Introduction

Introductions introduce the critical concepts of a product to new
users; they are intended to get readers up and working productively
as quickly as possible. They focus on the essential features in the
product: those that are most used by the largest audience. Introduc-
tions are laid out in a simple, step-by-step format, present simple
eamples, and are short (usually around 100 pages).

Usage

Usage books are for people who have read the Introduction and are
trying to learn more and for intermediate and expert users who are
using a product for the first time. Usage books build on the Introduc-
tions and cover a larger percentage of the features available. They
also move at a faster pace than the Introductions. They assume that
the user already understands some of the basics of working with
the SAS System: the construction of data sets, the purpose of the
DATA step and PROC step, the general workings of the execution
mode that are used. A Usage book for an add-on product will not
rehash material about the SAS language; readers are expected to
have learned about it first. Usage books are longer, up to about 500
pages. Depending on the product, more than one may be offered
in order to cover more features.

Reference

References are for users who have mastered the concepts that they
need to know but need to look up details on particular features.
Readers should already understand how the product works in gen-
eral and how statements and options work together within the prod-
uct. That understanding may have come from reading Introductions
and Usage books, from attending courses or using other Education
Division products, or from a lot of experience with programming and
the SAS System.

The book is laid out according to the structure of the product, typi-
cally alphabetically by procedure, with statements and options ordered under each. It does not guide you along step by step, any
conceptual information appears in summary form, perhaps as a
graphic, chart, or short discussion. For example, the SAS language
has its own Reference that presents information by feature: the
DATA step structure, statements, system options, functions, for-
mats and informats, the macro language, display manager, and so
on.

In content, these books are the definitive authority on every feature
in the product. If you haven't found that obscure but vital feature you
need in the Introduction or Usage, this is the book to consult.
These books also contain a "Changes and Enhancements" chapter
that summarizes what in the product has changed since the last
release. The book itself includes full information on the changes, but
the Changes and Enhancements chapter is designed to point out
what has changed, for the convenience of people who need to main-
tain or update existing SAS programs.

Some References are quite long. Based on user feedback that sug-
gested that extremely large books were difficult to handle, we split
References into multiple volumes whenever their length exceeds
800 pages.

Combined Books

For less complex products, it makes sense to combine different
books within a single cover. The combined book is more convenient
to use. Combined books still segregate all of the instructional mate-
rail from the reference material—they are constructed as though
two books were printed back to back within the same cover. These
products are documented by a combined Usage and Reference for
Release 6.06: SAS/ACCESS®; SAS/IML®; SAS/AF®, and SAS/FSP®
software.

Additional Books

In some cases there is a need for topic-specific documentation. The
SAS Guides have traditionally met this need. The following mem-
bers of the SAS Guide series will be carried forward into Release
6.06 documentation:

• SAS Guide to Macro Processing
• SAS Guide to Tabulate Processing
• SAS Guide to VSAM Processing

A new guide is available for the SQL procedure; a new one is under-
way for the REPORT procedure. Books are being planned on the
topic of efficient SAS programming.
OPERATING-SYSTEM-SPECIFIC DOCUMENTATION

The operating-system-specific documentation is provided to cover information that varies significantly from system to system, for example, specific directions on starting the SAS System in a given execution mode. These are the kinds of book in this area:

- SAS Companions
- Using Graphics Devices books for SAS/GRAPH software

The Companions tell how to use and administer the SAS System effectively on a given operating system. They address several tasks:

- tell users how to run the SAS System, for example, how to start the system, assign libraries, and route output. The use of native windowing systems (for example, DECwindows) is also covered.
- tell users and programmers what system-specific features and system options are available and how to use them.
- tell users how the files that make up the SAS System are laid out, how to adjust their system to run the SAS System efficiently, how to estimate space requirements for data sets, how to diagnose problems, and how other operating system features or applications interact with the SAS System.

The Companions provide essential information for several classes of users, including the beginning SAS user. Beginning users should use the Companions in combination with a technical report that identifies itself as Host Documentation.

The "Using Graphics Devices" books for SAS/GRAPH software tell how to configure and connect devices on your operating system. Formerly, this information appeared in Hardware Interface Guides. Users told us that they would be able to get their work done more quickly if we tailored it for each system. Details of system configuration, graphics output routing, and device driver availability vary significantly by system.

Operating-System-Specific Products

Along with fully portable products, SAS Institute produces products that are intended for use on particular operating systems: SAS/ACCESS, SAS/CPE, SAS/DTM, and SAS/IML-DUI software are examples. Books for these products are written in accordance with the architecture for the portable products.

For example, SAS/ACCESS books tell how to establish the appropriate connections between the SAS System and a database so that the database can be manipulated as a SAS data set. Strictly speaking, a database is not necessarily specific to an operating system, but most are. There is a SAS/ACCESS product for each of several databases, including DB2, IDMS/R, ORACLE, Rdb/VMS, ADABAS, and Databas/DB. For Release 6.06, the documentation for each appears in a combined Usage and Reference book. This kind of treatment is planned for other operating-system-specific products as well.

BOOKS AVAILABLE IN RELEASE 6.06

Rewriting all of the existing documentation, taken together with documenting all of the new features for Release 6.06, was a staggering task. There are some gaps in the library that we are still working on. There are also some products which still have Version 5-style User's Guides. However, there is a great deal available with the production release of Release 6.06. Figure 2 shows what portable documentation is available (not including operating-system-specific products). For example, base SAS software received a lot of attention; its documentation has been almost fully redone to meet the specifications of the new architecture. In addition, SAS/GRAPH users have asked for an instructional book for several years; they are getting the first one in the form of SAS/GRAPH Software: Introduction, Version 6, First Edition. On the other hand, SAS/STATA software had a large volume of new features for Release 6.06, so a rewrite has been postponed until Release 6.08.

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Making the Transition from Version 5

Figure 3 compares the book sets for Version 5 and Release 6.06 product by product. Technical reports for Version 5 have been dropped unless a replacement is shown for them here. In general, their contents have been included in new books as applicable.

SERVICES

As more and more documentation becomes available for Release 6.06 of the SAS System, it becomes increasingly important to keep users aware of document availability. The Publications Division provides information to users on new documentation in several ways:

1. Book Sales Staff The Book Sales staff consists of 11 representatives who handle over 2000 phone calls per month. They routinely handle questions on documentation availability, prices, order processing, content, replacement, audience, and applicability. The representatives process each order and ensure that books are shipped in a timely manner. They are available to assist customers between 9:00 and 5:00 EST.

2. Publications Catalog Published twice a year (January and July), the Publications Catalog lists all titles currently available. At your request, we have added a listing of sets of documentation. We also include a section on recommended documentation. Titles are listed by software product, and a complete alphabetic listing by book title is provided in the back. Catalogs are sent to users on our mailing list and to all purchasers of our books.

3. SAS Communications The Institute's quarterly news magazine features news items of interest to the SAS user.
community. Each issue of SAS Communications contains a listing of current institute documentation. There is a special Publications section in the magazine that features documentation-related articles and a description of each book published since the last issue. SAS Communications is distributed to a qualified mailing list.

4. Online Customer Support Facility  In 1989, the service was expanded to include an online version of the Publications Catalog. Users can browse it, download it, and even place orders online. The list of available titles is updated monthly. Introduced in 1988, the online customer support facility also provides users with access to usage notes, zaps, and an interface for reporting problems to SAS Technical Support.

5. Targeted Mailings  Throughout the year, mailings are targeted to particular customers to inform them of new titles, price discounts, and other news. In 1990, we plan to expand the number of mailings that are done to keep users informed of the growing list of titles.

6. Your Turn  The Your Turn page in our books allows you to send us comments on the book or the software. With Release 6.06, we are replacing the blank page with questionnaires in some books. The questionnaires are postage-paid as well as preaddressed, to encourage more feedback from you.

The Publications Division is always interested in ways to improve our communication with our users, and we welcome your input. If you have suggestions on how we might better keep you informed about documentation or how we might better serve your needs, please feel free to contact us.

FUTURE DIRECTIONS

We have a lot on our futures list. We want more input from you about what you want in order to give you books and services that help you be more productive.

Critiques by Users

In the Publications Booth at SUGI 14, we asked for volunteers to critique published books; users filled out a form listing some data about the site the products installed at the site, and the products for which they were interested in becoming a reviewer. The response was enthusiastic. We were able to launch several reviews on Release 6.06 books as they became available. We are continuing to gather names this year, as well as arrange for interviews with representative sites to see what their needs are.

Books that Cross Products

You typically use many SAS products to build applications. We are striving to understand the common elements of your applications. Once we do, we can write books that discuss how to use multiple products. A single book, for example, might describe how to build an order-entry and report system; it would integrate discussions of the DATA step, the FSEDIT procedure, base product reporting procedures, macro, and SAS/GRAPH charts.

Syntax Guides

Syntax Guides are half-size quick references to the syntax of a given product. They show lists of all procedures, language elements, statements, and options in a product. A Syntax Guide for base SAS language and procedures is in progress.

Books by Outside Authors

We are actively seeking to publish the work of outside authors on the SAS System, especially on the topics of applications, advanced topics, and specific industries. If you are interested in finding out more about this program, please contact the Editorial Services Group at the institute's regular address.

New Technology: Online Information

In addition to revising the way books are written, we are examining technologies for online information delivery, including hypertext and CD-ROM. Online information in a windowing environment offers new ways to serve multiple levels of user. However, these technologies are very new; we are exploring the possible advantages to our users. You will be hearing from us in the form of surveys to assess your interest in such products.

CONCLUSION

Release 6.06 saw the SAS System rewritten in C and the documentation for it reconceived and rewritten in a more usable form. The library has been reorganized to create books that will speed learning for new users and access for experienced users. As the system and the documentation library expand, we seek users' input in the course of developing new products and services. Several new programs make it easier to contact us, so the stage has been set for developing still better documentation in the future.

Our job is to understand the technologies of reading, learning, and information design in order to give you the right documentation tools for your tasks. The measure of our success is the time you save in using the SAS System.

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**CONSULTANT'S GUIDES**

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