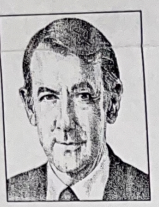
APPLIED INTELLIGENCE

Evolving SAA Strategy Will Have a Place for the AS/400



JAMES MARTIN

This is the final part of a series on IBM's midrange computer family, the AS/400, a pivotal part of IBM's strategy to provide greatly enhanced consistency and connectivity across multiple supported environments.

An important strategic goal of IBM and other vendors is the provision of a consistent application-development environment across its major product lines. Today, programmers often have to use a different set of languages, tools, editors and development procedures for each computer environment. This makes it difficult to develop applications that can be run on a number of computers without the need for redesign and reprogramming.

As a solution to this problem, IBM introduced Systems Application Architecture (SAA), which is an integrated computing environment supporting a Common User Interface (CUA), Common Programming Interface (CPI) and Common Communications Support (CCS). The CPI permits users to develop applications that are independent of the underlying system architecture. As shown in the graph, the CPI includes a common set of high-level languages, procedural languages, application generators, expert systems, database interfaces, dialogue interfaces and communications interfaces. Applications that consistently use these services can run on any system supported by SAA.

The AS/400 will participate fully in the evolving SAA strategy. It will offer SAA capability to midrange systems and will act as the control point for groups of intelligent workstations.

Application Packages

Most applications for the AS/400 are in the form of application packages, which are not compliant with SAA. The AS/400 probably has the largest base of software application products available on any commercial computer. Although about 8,000 application packages have been developed for the System/3X and AS/400 environment, there are only a few hundred serious application packages from well-established vendors. Most applications have been migrated from the AS/400's predecessors, the System/36 and System/38.

In addition to application packages, there are general-purpose applications, which include IBM's AS/400 Office and PC Support products, and general-purpose application generators, such as Synon from Synon Ltd., Genesis V from Sofbro Ltd. of London, LANSA from Aspect Computing Pty. Ltd. and Metaview from Metafile Information Systems Inc. These tools, described below, are not compliant with SAA, although some are moving in that direction.

AS/400 Office. AS/400 Office is IBM's answer to the integrated office products offered by Digital Equipment Corp., Wang Laboratories Inc. and Data General Corp. It supports word processing, electronic mail, calendar management and simple "directories" (or personal databases) in an integrated software package. The initial version, announced in June 1988, is adequate for its task but little more. A greatly improved version of SAA Office was announced in May.

Office automation was dead as a technological niche by the end of 1986. In its place emerged a requirement to manage information exchange throughout the enterprise. Business information comes from a variety of sources and takes a variety of forms—data, text, graphics, voice and image. The new office must support these forms.

IBM ships AS/400 Office with every AS/400, offering customers a 90-day free trial of the product.

Recently, IBM announced a major new office product. OfficeVision is designed to operate seamlessly across all SAA environments. OfficeVision supports document preparation, filing, E-mail, decision support and calendar scheduling. The system is designed to provide integrated office functions that can be run on AS/400s, PCs and mainframes. Applications written using the CPI functions can be integrated into an OfficeVision system. OfficeVision is expected to replace AS/400 Office as the primary office-support package for the AS/400.

PC Support. PC Support is a PC connectivity tool introduced by IBM in 1984 as part of its Office Systems Family of strategic office products for the System/36, System/38 and System/370-compatible mainframes. A much-enhanced version of PC Support/38 was migrated to the AS/400.

PC Support has achieved nearly universal acceptance among System/36, System/38 and AS/400 users as the method of choice for integrating IBM-compatible microcomputers and IBM midrange systems. It offers one-stop shopping for most important connectivity functions, including terminal emulation, file transfer, file-server functions and printer-server functions.

Synon. Synon/2E is the most widely used and highly regarded computer-aided software engineering tool in the IBM midrange market today. It embraces both the design and the generation of application programs in a top-down approach to application development. A data-modeling tool and an action-diagram editor create high-level data models and function definitions that are independent of implementation details. Predefined functions on data objects can be assembled in a highly structured fashion using an action-diagram structured programming notation.

These features accommodate rapid application development through successive iterations of prototypes while maintaining design integrity. When the design process is complete, Synon/2E automatically generates corresponding RPG III or COBOL program source code, as well as the source code needed to create associated AS/400 data objects.

A strategic move by Synon Ltd. is the decision to support IBM's SAA standards in Synon/2E applications. But, Synon/2E's SAA support amounts to conformance to CUA standards for keyboard usage and screen layouts.

Genesis V. Genesis V is an application generator developed for the System/38 and later migrated to the AS/400 platform by Sofbro Ltd. The product automates the generation of interactive RPG III programs based on a database definition and functional specifications defined by the programmer. Unique among AS/400 application generators, Genesis V uses rules in a knowledge base to direct the translation of these specifications into RPG code.

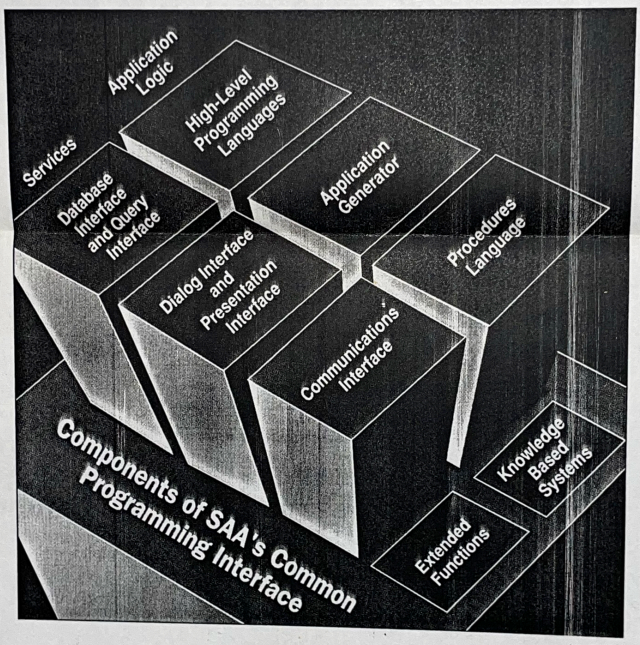
LANSA. LANSA is a fourth-generation language (4GL) developed for the System/38 and modified to be suitable for use on the AS/400 by Aspect Computing of Hawthorn, Victoria, in Australia. LANSA consists of an optional data-modeling module, a comprehensive data dictionary and a fourth-generation language.

The LANSA 4GL is consistent with the AS/400 Command Language syntax and relies on the AS/400 command-processing facilities to prompt for and validate LANSA command statements. LANSA statements generate RPG III code as well as display screen and report data description specifications.

Metaview. Metaview is an application-development tool for cooperative-processing environments. It includes integrated support for data, text and image information in a cooperative-processing environment. It also has a high level of hardware independence, which is critical for cooperative processing.

A high-level instruction set defines a cooperative-processing architecture on which applications can be built. Metaview applications see this high-level view of the network and treat it as a single "soft machine," independent of the underlying details of operating system, hardware and network configuration. It provides a striking endorsement of IBM's vision of the cooperative-processing environment.

In two weeks, I will begin a series on how to plan for the transition to an integrated computing environment, such as IBM's SAA. ■



John Avakian

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The James Martin Productivity Series, an information service updated quarterly, is available through High Productivity Software Inc., of Marblehead, Mass. (800) 242-1240. For information on seminars, please contact (in the United States and Canada) Technology Transfer Institute, 741 10th St., Santa Monica, Calif. 90402 (213) 394-8305. In Europe, contact Savant, 2 New St., Carnforth, Lancs., LA5 9BX United Kingdom (0524) 734 505.