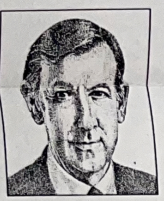
APPLIED INTELLIGENCE

Changing Technology Calls for New Information Strategies



JAMES MARTIN

Many organizations are realigning their corporate information strategies in response to major changes erupting in both hardware and software technology. As shown in the figure, the computing landscape is being transformed by a number of factors, including the growing power of desktop computers, the consolidation of PCs into LANs, the use of file servers to facilitate data access, and the distribution of processing power and data throughout networks of diverse systems.

In response, many organizations are shifting their focus to integrated computing environments, intercorporate networks, multilayered hardware architectures and the development of cooperative-processing applications.

Increasingly, large mainframe applications are being broken up into program modules that can run across a network of computers. User-interface functions and many processing operations are being moved to the desktop, leaving the mainframe to control computer networks and deliver access to large corporate databases.

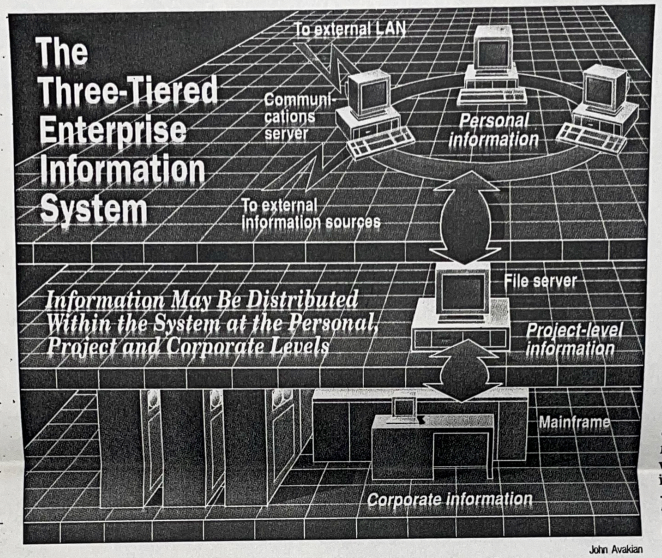
Applications development is also undergoing fundamental changes. Within a few years, program design will be performed almost exclusively on the desktop. Developers will use integrated computer-aided software engineering (I-CASE) tools to generate applications automatically, rather than rely on inefficient hand-coding techniques with languages such as COBOL.

Corporate information strategies also will focus increasingly on the identification and implementation of standards—the use of standards for graphical user interfaces, database interfaces, communication protocols, design information and operating environments.

Standards are already taking root in the CASE arena, as a result of IBM's announcement of AD/Cycle, a common repository standard that governs the storage of CASE design information. This standard will make it possible for users to select the optimal CASE tools from multiple vendors for each phase of the development process.

So what kind of strategic vision should we be adopting as we move toward the applications-development environment of the 1990s?

A major criterion for an information strategy is to meet the critical success factors of an organization. It's no longer good enough to use information systems simply to develop payroll systems in the back office. The corporate information-systems department has to identify ways in which information can be leveraged to gain a strategic advantage—for example, how more productive development methodologies such as rapid applications development (RAD) can be used to develop applications faster and at a much lower cost, or how information technology can be used to do more with less.



John Avakian

Therefore, an information strategy must identify the architectures, methodologies and tools that can be tapped to meet an organization's goals. This requires an overall strategic game plan that may introduce the company to entirely new hardware and software techniques.

Other options that can help an organization reach its goals are methodologies based on rapid prototyping, such as RAD; close involvement of end users; joint application-design workshops; small teams of experienced analysts; and the use of I-CASE tools that are capable of generating 100 percent of an application's code on the desktop.

A principal objective of migrating applications development to the desktop is to create code that can be exported or transported to the target environment. Within IBM's Systems Application Architecture, that target environment might be a PS/2, an AS/400 minicomputer or a System 370 mainframe.

Implementation of this type of strategic vision can result in major improvements to productivity and at the same time meet the critical success factors of an organization.

Next week, I will discuss the selection of applications-development tools that meet the requirements imposed by advanced development methodologies and integrated computing architectures. ■

The concepts embodied in this article are described in the High-Productivity Technology volume in The James Martin Report Series. For more information on this volume, call (617) 639-1958. For information on seminars, 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.