

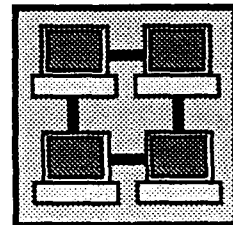
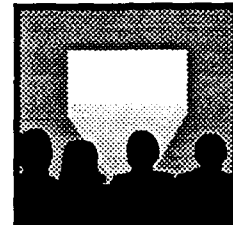
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# Annual Report Application Center of Excellence (ACE) Program

Report PL019R1



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October 1991

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## Executive Summary

### ANNUAL REPORT, APPLICATION CENTER OF EXCELLENCE (ACE) PROGRAM

The Application Center of Excellence (ACE) program increases the effectiveness of the Office of the Assistant Secretary of Defense (Production and Logistics) [OASD(P&L)] by exploiting the capabilities of installed computing equipment and augmenting those capabilities with new technologies. In FY91, its first year of operation, the program developed capabilities for more effective management presentations and improved connectivity to external systems. The P&L staff is now able to produce engaging presentations in a variety of media and to connect to many external systems from their desktop computer.

For P&L to derive the full benefits of the program, the ACE program manager should establish guidelines for future operations. Our recommendations pertain to guidelines on the ACE infrastructure (*program participants and resources*) and the process used to conduct ACE business.

The major problem with the current infrastructure is that it lacks a key participant: an organization to provide user support after an ACE product is exported to P&L offices. Given the shortage of in-house user support, P&L should obtain installation and training services from alternative sources whenever feasible. Among the possible sources are current P&L contractors such as Electronic Data Systems, commercial training firms, and videotaped instruction.

Insofar as the ACE process is concerned, we recommend that three actions be taken. First, ACE action offices should select and evaluate products that users can learn easily. The simpler the product, the more readily it will be used. Current ACE products that are easily learned include a personal typesetter for producing camera-ready copy, projection panels used for presentations, and gateway software for accessing external systems. Similarly, action offices should select products that are simple to install or those for which installation services are readily available.

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Of the lessons learned in the first year of ACE operations, ease of installation and learning are among the most important because exportability to other P&L offices is a key consideration. The more exportable a product is, the greater its potential use in P&L.

Second, when selecting and evaluating products, ACE action offices should maintain a problem-solving orientation rather than a technology orientation. ACE products are useful only if they help action officers solve everyday problems. Proven technologies are preferable to those on the leading edge.

Third, for stand-alone technologies, P&L should institute a "pull" strategy, which requires a user to justify the need for a particular product. The ACE program manager should develop a process for publicizing stand-alone technologies and reviewing user requests for acquiring them. Network-based products and capabilities, on the other hand, should be available to all users; the ACE program manager and action officers should distribute procedures for using such products.

In the past year, the ACE action offices have evaluated several products and developed many procedures useful to P&L. Two challenges must be faced in the coming year. The first is to make these developments available to the broadest possible audience in P&L without burdening the available means of support. The second is to establish additional ACEs that provide solutions as useful as those already developed.

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# CHAPTER 1

## PROGRAM OVERVIEW

### BACKGROUND

Since installing the Office Automation and Communications System (OACS) in the mid-1980s, the Office of the Assistant Secretary of Defense (Production and Logistics) [OASD(P&L)] has developed two sources of untapped automation and communication expertise: knowledgeable users and readily available equipment. The Application Center of Excellence (ACE) program makes use of these sources.

Users of OACS are well versed and experienced with ALIS,<sup>1</sup> personal computer (PC) software, network operations, and other aspects of office automation. Many others in P&L<sup>2</sup> have become experts on aspects of office automation through their job requirements or personal interest. This expertise, which could be used throughout the organization, often remains within a single office. No means of pooling and sharing the knowledge has existed.

The equipment that comprises OACS also offers myriad capabilities that are not fully utilized or developed. In some cases, P&L could achieve productivity gains by acquiring relatively inexpensive additional equipment or software to supplement OACS capabilities.

The Director of Program Support in P&L, after seeing the user expertise and equipment capabilities available, initiated the Application Center of Excellence program to tap those resources for the good of all P&L offices. ACE provides the mechanism and resources for knowledgeable individuals to develop tools and establish procedures for enhancing P&L productivity. ACE is envisioned as a "support group" – users helping other users solve problems associated with their daily responsibilities. The program is not designed to offer complex, high-technology solutions, but rather middle-of-the-road solutions that can be applied to everyday problems with readily available equipment and technology. Technologically

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<sup>1</sup>ALIS is a registered trademark for office automation software developed by Applix, Inc.

<sup>2</sup>In the remainder of this report, P&L will be used as a shortened form of OASD(P&L).

advanced solutions are avoided in favor of those that are simple and readily carried out.

## **OBJECTIVES**

The ACE program was established to enhance the productivity of the P&L staff by utilizing the full capabilities of installed computing equipment augmented with new technologies and products. The three primary objectives of ACE are to use staff expertise to exploit the capabilities offered by OACS, test and evaluate new information-related technologies for possible use in P&L, and develop methods for disseminating new capabilities and technologies to the P&L staff.

## **DESIGNATED CENTERS**

In March 1990, the Director of Program Support in P&L established two ACEs: the Supply Management Policy Office as the Computer-Aided Management Presentations ACE and the Logistics Planning and Analysis Office as the Connectivity to External Systems ACE. As stated in the director's chartering memorandum, the ACE offices are given the widest possible latitude to exploit existing office automation (OA) technology and develop a strategy for its use in the assigned application area, including the determination of hardware and software requirements. In addition, the various Deputy Assistant Secretaries of Defense (DASDs) work closely with the ACEs, through the Director, Computer Systems Support Division (CSSD), to provide technical coordination and direction to ensure consistency and interoperability among P&L users.

## **PROGRAM COMPONENTS**

The ACE program is composed of four components: participants with distinct roles, resources available for ACE use, processes that assist in attaining the objectives, and projects being pursued. In Chapter 2, we discuss the two components – participants and resources – that comprise the ACE infrastructure. The third component – process – is discussed in Chapter 3, and the fourth – projects – is discussed in two other Logistics Management Institute (LMI) reports.

## **PURPOSE OF THIS REPORT**

This report describes our conception of the ACE program and offers recommendations for future ACE operations. Although we discuss the ACE infrastructure, our

primary focus is on the ACE process. That process consists of three activities: selection of an application area and an action office; selection, development, testing, and evaluation of specific technologies within an application area; and export of ACE capabilities to other P&L offices. We want to establish a common understanding of the ACE process and how it can be improved. Its importance lies in the continuity it can provide as participants, resources, and projects shift and develop. An established process can guide ACE operations in the midst of change.

This report serves two purposes: it provides recommendations to CSSD on the management and operation of the ACE program and it gives future ACE action officers a description of the program and specifically of their roles and responsibilities. Our recommendations are drawn from the experience of working with the two ACE offices and with the Director, CSSD, in the past year. We have purposely kept this report short so that our findings and recommendations can be quickly read, comprehended, and discussed. This report should form the basis for discussion of the ACE process with CSSD and incoming ACE officers in FY92.



## CHAPTER 2

### APPLICATION CENTER OF EXCELLENCE INFRASTRUCTURE

#### PRIMARY PARTICIPANTS

Many individuals and organizations contribute to the success of ACE. The Director of Program Support initiated the program and now provides policy guidance and monitors its overall progress. On a day-to-day basis, the primary ACE participants are the ACE office staffs, the Director of CSSD, and LMI personnel. We discuss their roles in the following subsections.

#### ACE Offices

The ACE office staff members are the most important participants in the program, for without their involvement, ACE would cease to exist. They originate ideas for improving P&L productivity and enhancing the capabilities of OACS, identify equipment and capabilities to be tested, install software and hardware peripherals, evaluate products and procedures (to determine their applicability to P&L environment), write procedures for equipment use, and review and augment LMI equipment evaluations. Some aspects of an ACE office staff member's role are included in our description of the ACE process in Chapter 3.

We emphasize that the ACE office staff members are responsible for initiating projects in their application areas and selecting products for development and testing. Although CSSD and LMI make suggestions about products to acquire and offer support in implementing those selected, the ACE staff remains the primary decision maker. When appropriate, staff members consult outside experts for guidance on the availability and applicability of information technology products.

#### Computer Systems Support Division

The Director of CSSD is the ACE program manager. He coordinates the program and oversees its direction, maintains close contact with the ACEs to discuss the status and plans of ongoing projects, ensures that all parties are working together and that the allocated resources are adequate, informs P&L executives of progress,

manages current project funding, budgets for future funding, initiates new ACEs in areas of high payoff to P&L, and approves purchase of new equipment for testing.

### **Logistics Management Institute**

In its support of the ACE program, LMI helps identify commercial, off-the-shelf equipment appropriate for testing, procures equipment, assists ACEs in evaluating equipment (especially with respect to the functions offered and the ease of learning and use), writes initial equipment evaluations, and prepares reports documenting progress and recommending future action.

### **SUPPORTING ORGANIZATIONS**

Two other organizations play supporting roles and become involved in ACE only as needed. Electronic Data Systems, Inc. (EDS), provides technical advice and assists in the installation of network software and hardware. The 7th Communications Group (7CG) plays a similar role by providing technical advice and assisting with installation of new equipment as well as supporting users of selected ACE technologies. Other individuals in P&L, known to have a superior knowledge of information technologies, have also provided technical advice upon request.

### **RESOURCES**

Besides personnel, two types of resources are available for ACE projects: existing P&L equipment and contractor funding. Existing equipment includes OACS servers and workstations that can be used for testing new peripherals and software, and network hardware and software. The availability of the OACS network broadens the range of products that can be tested and offers a means of accessing external data bases and systems.

The second type of ACE resource is contractor funding. P&L has established a task with LMI to provide technical support to ACE and to purchase equipment for evaluation. In its technical role, LMI supports ACE offices and augments the limited time that they can devote to this program. The equipment purchased for ACE is installed in P&L and jointly tested by the ACE office and LMI. Some software is installed at both P&L and LMI.

## CONCLUSIONS AND RECOMMENDATIONS

The approach of supporting ACE offices to create and execute their own agenda is working well. It ensures that the program remains centered on end users and directed by them. The ACE program is founded on the belief that end users can identify the automation capabilities they require and need little assistance in doing so. They do need support, however, in developing and implementing solutions. ACE is designed to provide the resources – people and funds – for end users to test and implement their own solutions. The ACE has also been fortunate in obtaining advice from experienced users in P&L and other OSD components who have served as consultants in the selection and testing of products. The current participants have formed a loosely structured team that has worked together to achieve the results to date.

The biggest problem with the current infrastructure is the lack of an additional participant: an organization to provide user support after an ACE product is exported to other P&L offices. The current participants have fulfilled the first two steps of the ACE process – selecting ACE areas and selecting technologies for evaluation. As we face the challenge of exporting ACE capabilities, the need for user support is unavoidable and not easily fulfilled.

An additional problem is the vagary of funding. FY91 funding for ACE was cut by 50 percent and provides for only half a year of effort on FY92 work. Although additional funds are budgeted for FY92, we must allow for less optimistic contingencies and curtail efforts that would be possible if full funding were already available.

## CHAPTER 3

### THE APPLICATION CENTER OF EXCELLENCE PROCESS

#### SELECTING AN APPLICATION AREA AND ACTION OFFICE

##### Application Areas

The ACE process begins with the selection of an application area for a new center of excellence. The primary criteria for selection is that the ACE benefit a large segment of the P&L community. The ACE program is designed to help "mainstream" users with everyday tasks; it is not designed to develop leading-edge capabilities. The selected application area should be familiar to many P&L offices and should involve everyday problems that commercial, off-the-shelf technology and user expertise can remedy.

The two current ACEs are good examples of such areas. Offices throughout P&L must be able to present management information and must be connected to external information sources. Advances in both areas are likely to become widely implemented and utilized.

##### Future Application Areas

At least one additional ACE, for administrative applications, will be established in FY92. Potential projects for that center include development of an on-line P&L telephone directory for all ALIS users, development of tools for electronic distribution of P&L correspondence, and facilitation of complex ALIS functions through use of the Extended Language Facility (ELF).

We recommend that P&L consider four other areas for future ACEs. First, as P&L moves from straightforward office automation functions to broader information access requirements, it will need to process many types of information. Users will need to access and integrate text, data, graphics, digitized still images, animated images, sound, and other formats that have not yet been developed. With more powerful microprocessors, reduced instruction set computer (RISC)-based architectures, optical disk technology, improved high-resolution color displays and graphic

adapters, audio and animation add-in boards, and other technical advances, the user workstation is undergoing rapid change. New capabilities will enable users to perform functions at their desktop that previously required highly specialized equipment. The ACE we propose would research and evaluate new desktop configurations and determine how P&L can best use them. In this area, it could also help P&L determine its requirement for multimedia capabilities and prepare for the installation of multimedia workstations in selected offices.

We recommend establishment of a second ACE to evaluate PC environments and user interfaces, such as the Microsoft Windows and X-Windows, and related applications software. In addition to testing and evaluating the interfaces, the proposed ACE would determine how P&L could migrate to a new environment in the future while continuing to use ALIS. This ACE should not be established until the OSD-wide systems architecture project team has reported its recommendations in 1992.

The final two ACEs we recommend are similar to each other. One would develop and distribute techniques for using P&L's standard DOS applications, particularly WordPerfect, Lotus 1-2-3, and Harvard Graphics. This ACE would develop specific ways to use these packages to produce established P&L outputs more effectively. Such outputs could include correspondence, reports, budget submissions, and presentations. The other ACE would develop and distribute advanced techniques and applications using two ALIS software components: the document composer and spreadsheet. Because the P&L staff has used ALIS for more than 7 years, many users have an extensive knowledge of the software and could share their knowledge throughout P&L if they had an effective way to do so. The ACE program could serve as the necessary vehicle.

These final two ACEs would differ from existing ACEs. They would require virtually no equipment and would not launch P&L into a new era of automation as the other ACEs have the potential to do. Instead, they would capitalize on available in-house expertise for widely used software. Given the cutbacks in P&L's Operations and Maintenance budget over the past few years, ACEs that rely primarily on staff expertise may become increasingly appropriate and attractive.

## **Action Office**

When an application area is selected, an appropriate action office to manage the area must also be chosen. Because the ACE concept relies on users' ideas and initiatives, the choice of an action office is critically important. It must have a strong working knowledge of the application area and an interest in augmenting current P&L capabilities. The first two ACE action offices were selected because they include individuals knowledgeable about OACS and ALIS and about commercial, off-the-shelf technologies that could offer enhancements.

Ideally, before being selected, a potential ACE office would have already initiated actions of its own and demonstrated an interest and ability in the application area. After being selected, the action office must be able to spend time on ACE projects, especially the tasks in two areas: selecting, developing, testing, and evaluating specific technologies; and exporting ACE technologies. To make a commitment to spend time on ACE projects, the action office must have the support of its manager who should view ACE work as valuable and worthy of the resources being expended. Since ACE efforts may not always have immediate payoff, they must sometimes be seen as an investment in research and development. The Director of the Supply Management Policy Office is an example of the type of manager best suited to ACE. He recognizes the value of improved management presentations and supports the work of his staff to develop that capability.

If possible, more than one action officer should be designated for each ACE office. That dual designation distributes the work load and at the same time supports the smooth operation of the ACE in the event one action officer leaves. The current ACEs each have only one action officer; if either individual were to leave, progress would suffer.

Finally, an action office must have space for new equipment that will be acquired. While space might appear a trivial issue, the contention for Pentagon office space has already caused the shuffling of ACE equipment more than once, and that shuffling disrupts the ACE's work and delays the projects underway.

## SELECTING, DEVELOPING, TESTING, AND EVALUATING SPECIFIC TECHNOLOGIES

### Selecting Technologies

The ACE program is founded on the belief that end users can identify the automation capabilities they require. Consequently, the ACE offices are given responsibility for selecting technologies to be tested. The CSSD and LMI sometimes provide suggestions, but their primary role is to support the ACE offices in establishing and carrying out their own agenda. That orientation has ensured that the program remains end user-centered and user-directed.

The following six criteria guide the ACE offices in selecting technologies:

- *Range of use.* The technology must be useful to a large segment of P&L. This criterion dictates development in problem areas already familiar to many P&L users.
- *Maturity of the technology.* The technology must be relatively mature and ready for use in an office environment. "Cutting edge" technologies are not appropriate for ACE development.
- *Commercial products.* The technologies acquired for an ACE should generally be commercial, off-the-shelf products. Customized enhancements to such products are sometimes appropriate, but fully customized, one-of-a-kind products are generally not.
- *Exportability.* The technology must be fairly easy to export to other P&L offices. Network-based technologies, for example, which are easier to export than stand-alone technologies, are well suited for ACE development.
- *Architectural suitability.* The technology must be consistent with P&L's existing system architecture. This means that network-based products should be UNIX-based and transmission control protocol/internet protocol (TCP/IP)-compatible while stand-alone products should be DOS-based. The introduction of products that do not comply with this architecture should be limited.
- *User support.* When the technology is exported to P&L offices, a source of user support must be provided. If a product is difficult to support, its usefulness is limited.

## **Developing Technologies**

Three steps in the development of a selected technology are acquiring it, installing it, and learning to use it. The following subsections briefly describe those steps.

### ***Acquisition***

The necessary hardware, software, and services are acquired or provided by P&L. It purchases most items and it leases or borrows a few. For DOS-based software or peripherals, P&L provides the necessary PC on which to load or install the ACE products. For network-based products, P&L provides a server and network access.

### ***Installation***

The ACE office installs most stand-alone equipment itself. If necessary, outside help is obtained from EDS (for installing network products such as the Ascent gateway software or a facsimile board) or from another vendor (to install complex products such as the LaserMaster personal typesetter). The ACE office must consult EDS before installing any hardware on equipment that EDS maintains; otherwise, the maintenance warranty may be voided.

### ***Learning to Use***

When the product is installed, the ACE action officer must learn to use it. Although the action officer may have no experience with the particular product being tested, his/her knowledge of the application area as a whole is beneficial in learning a new product. The action officer is expected to devote the time required to become familiar enough with the product to determine its suitability in the P&L environment. That familiarity may be facilitated by the use of learning aids that are available for some products. For example, two software programs acquired for the Management Presentation ACE include videotaped training; the LaserMaster personal typesetter includes hot-line support from the vendor and 1 year of on-site maintenance. LMI shares the responsibility for evaluating most products and can provide the action officer technical assistance on their use.



## Testing and Evaluating Technologies

In testing and evaluating the ACE products, we maintain a problem-solving orientation rather than a technology orientation. We are interested in technology only to the degree that it can solve current automation problems in P&L, not for its inherent appeal.

Responsibility for evaluating technologies is shared by the ACE action office and LMI. LMI evaluates most aspects of a product, such as ease of installation and learning, functions provided, and exportability, and writes an initial draft of its findings. The ACE action office modifies LMI's draft and adds a "P&L-flavor" to the written evaluation by discussing the product's relevance to specific P&L needs and its suitability to the P&L automation environment. LMI incorporates this additional material and publishes a final evaluation for CSSD.

The following five criteria are applied by LMI and P&L in evaluating technology products:

- *Ease of installation.* If significant technical knowledge is needed to install a product, that product may be suitable for P&L only if the vendor can provide installation services and continual maintenance support. While this continual maintenance is feasible for network-based resources that can be centrally managed by P&L, it can be problematic for stand-alone resources, which are normally the responsibility of an individual office.
- *Ease of learning.* When a new product is acquired, the ACE office and LMI learn to use it by experimenting with it but spending very little time reading a user's manual or operations guide. We chose this approach to duplicate the approach of a typical user who wants to use a new product immediately and will only read enough of a manual to get the product installed.
- *Functions provided.* We evaluate a product's functions in two ways. First, as we learn to use it, we note its strengths and weaknesses in functionality and ease of use. After we become moderately proficient, we often use the product in a live setting to produce output. For example, with the PC graphics software, we produced a set of briefing slides; with the LaserMaster, we produced a report; and with the Sayett projection panel, we presented a briefing.
- *P&L requirements addressed.* Beyond the functions offered, we determine whether a product will be beneficial in the P&L environment. We also determine whether any aspect of the product renders it unsuitable for P&L use. For example, we found the LaserMaster produced high-quality output

but could not be installed on the P&L network and, as a result, recommended that P&L search for a typeset-quality printer that could be used as a network device.

- *Exportability.* In our evaluation, we consider the need for user training and assistance and their availability. Some products, such as the Princeton accelerator board or the Sayett projection panel require little or no training. They are easy to export and could be well suited to the ACE program. Other products, such as the PC graphics software programs, require at least an hour of training simply to orient a user to the product's capabilities and several more hours to achieve proficiency. Those types of products are also more difficult to export, as discussed in the following section.

## **EXPORTING ACE TECHNOLOGIES**

A prime determinant of the ACE program's success is the benefit derived by the P&L end user. Consequently, exporting ACE capabilities throughout P&L is an important aspect of the program. The export procedures for a specific product depend on many variables, including the cost of the item, the number of offices requiring it, and the availability of user support. Perhaps the key variable, though, is whether the product is a network-based, shared resource or a single-user resource. The importance and implications of this distinction are discussed in the following subsections.

### **Network-Based, Shared Resources**

When a network-based product has been installed and tested, all OACS users can have access to it from their desktop workstation. A user who is given procedures for gaining access can usually do so without on-site technical help. That accessibility greatly simplifies and accelerates the export process. Several ACE products have been exported that way. The Ascent software, for instance, was installed on the P&L network in FY91 and provided all users with access to external systems. The Legislate congressional information service is another example of a network resource. P&L established a subscription to the service and provided access to all staff members who require congressional information. Since the subscription includes training sessions led by the Legislate staff, we were able to export Legislate quite simply. The network facsimile board, when installed, will also operate as a shared resource available to all network users. Many of the projects envisioned for the Administration ACE in FY92, such as an on-line P&L telephone directory, will also be network-based.

For network-based resources, CSSD is responsible for distributing instructions and providing a P&L point of contact for user support. Since ACE is attempting to install only network products that can be learned quickly, the need for user support is important for new users but not for experienced ones. We have found that many persons need help the first time they use a new product and may quickly abandon a product if their initial attempt is unsuccessful. However, if users receive assistance and are successful the first time, they may gain enough knowledge to continue learning on their own. Where possible, P&L should continue obtaining support from outside agencies, such as the EDS help desk (for Ascent) and the Legislate staff (for Legislate).

### **Single-User Resources**

For several reasons, single-user resources are more difficult to export than those that are network-based. The number of copies or units of a product that need to be acquired must be determined (whereas only one or two copies of a network product are needed); each copy must be installed, maintained, and supported separately; and centralized control is difficult to maintain. Several export issues relevant to single-user resources are discussed in the following subsections.

#### ***"Pull" Strategy***

A "pull" strategy, in the context of the ACE program, is one in which a user must initiate action to receive a resource. (A "push" strategy, on the other hand, is one in which a product or solution is automatically implemented in all offices with no initiative required of the user.) We consider a pull strategy appropriate for single-user resources for three reasons. First, single-user resources are limited – only one person at a time can use them. Use must be restricted to people who are interested and who have a requirement. Second, although the ideal ACE product would be one that has universal applicability in P&L, most actual products have a more limited use. Any attempt to export such a resource to the entire organization would be counterproductive for both the ACE program and P&L action officers. Requiring potential users to initiate action is a good way to limit inappropriate use. Third, because the resource must be purchased for each additional user, the cost of stand-alone resources is extremely variable and potentially quite high.

The pull strategy could be implemented as follows: after a product has been evaluated, the ACE action office and LMI would write a product description,

including an estimate of the amount of staff time required to learn to use the product. The description would be distributed throughout P&L and all interested staff members invited to visit the ACE office and see the equipment or software demonstrated. Users interested in acquiring the product for their office would be told how to make a procurement request and would be required to demonstrate or justify their need for the product. They would be responsible for demonstrating or rationalizing their requirement. Users who request the product would also be informed that the product does not come free of responsibility – they must devote the time to learn its use and to determine how to put it to best use.

### ***Videotaped Tutorials***

Videotaped tutorials are available for some software, including Corel Draw, Micrographx Charisma, PerFORM Pro, and Arts & Letters Graphics Editor. Having used those tutorials to train ourselves on the products, we consider the videotape medium to be an excellent tool for exporting a product. A user can watch a video, learn the fundamentals of a program, and begin to produce simple output immediately. This method gives the user a resource but makes him responsible for learning to use it.

### ***Simple-to-Use Products***

Some single-user products are fairly simple to use and require only minimal training. Examples include the PC Viewer and Sayett panels (for projecting briefing slides onto an external screen) and the LaserMaster (for printing Postscript files from ALIS). Since the PC Viewer and Sayett panels are portable, users can borrow them when needed and thus exportation is simple. The LaserMaster personal typesetter is also easy to use. Having created a Postscript file, a user need only enter a single command for the LaserMaster to format and print the document automatically. One drawback of the LaserMaster is that it is not portable and must be used at its installed site, which currently is Room 3B730 at the Pentagon. Although it provides a useful capability and is simple to use, whether staff members will travel to Room 3B730 to use the equipment is problematic. For all ACE equipment, including simple products such as the PC Viewer and the LaserMaster, CSSD should provide a P&L point of contact so all user problems are resolved as quickly as possible.

### ***Capabilities Difficult to Export***

The videos produced with ACE equipment have been well received and have demonstrated the impact of this new medium for communicating with DoD executives. The production of videotape presentations can be exported only in a limited way, however, since the production equipment is highly complex. Some steps in the production process are appropriate for P&L action officers while others required technical expertise beyond the scope of most individuals. Action officers are able to draft a video script, narrate the video, and suggest animations and other visuals to convey the intended message. However, they are not qualified to operate the edit decks, animation generator, time-base corrector, and other equipment used to produce the final product. Only one individual in the Management Presentation ACE is qualified to operate that equipment, and he has produced all the P&L video products thus far. To provide training to other users is beyond the scope of the ACE project. Furthermore, since P&L has not included the video production function in the job responsibilities of any P&L action officer, all production work must be done as a sideline to other official responsibilities. Although the video function cannot be exported as widely as other ACE capabilities, it provides useful output and should continue to be supported by P&L.

### **CONCLUSION**

Whenever possible, ACEs should evaluate and export products that are either simple to install and learn or for which installation and training are readily available. Networked products fit this description more readily than stand-alone products. During FY91, we have evaluated many capabilities that would be useful throughout P&L. Some, such as the Ascent software and Legislate information service, are easily exported. Others, such as PC graphics software from the Management Presentation ACE, are complex and not easily supported. Until we can find a means of exporting the latter class of product, most of P&L cannot benefit from it. We strongly recommend that all future products be selected with exportability in mind. The ACE program should target products and capabilities that are not only useful to the organization but also readily exported. Recommendations for exporting specific products are provided in separate LMI reports on the two existing ACEs.

## GLOSSARY

ACE	=	Application Center of Excellence
ALIS	=	Registered trademark for office automation software developed by Applix, Inc.
CSSD	=	Computer Systems Support Division
DASD	=	Deputy Assistant Secretary of Defense
DOS	=	disk operating system
EDS	=	Electronic Data Systems, Inc.
ELF	=	Extended Language Facility
LMI	=	Logistics Management Institute
OA	=	office automation
OACS	=	Office Automation and Communications System
OASD(P&L)	=	Office of the Assistant Secretary of Defense (Production and Logistics)
PC	=	personal computer
RISC	=	reduced instruction set computer
7CG	=	7th Communications Group
TCP/IP	=	transmission control protocol/internet protocol