Personal Computer Support at Fermilab

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Fermilab has been using personal computers for a number of years without any labwide management or support. In 1993 the Computing Division formed the Personal Computer Support group. Their first mission was to design an efficient support model.

The Personal Computer Support Group realized that to provide responsive and cost effective service to the Fermilab community the plan must be scaleable, provide reliable performance, backup and security, and make efficient use of Computing Division resources.

1 Introduction

Personal computers (Macintosh and IBM PC clones) have been on site at Fermilab in a variety of roles for well over ten years. Unfortunately, no formal laboratory wide management and support was undertaken until the establishment of the Personal Computing Support Group in the Computing Division in 1993. The first mission of the PCS group was to design a plan to efficiently manage personal computers on a lab-wide basis. This talk outlines the plan and how well it has worked in the three years since its design.

2 Problems and Challenges

As a consequence of the over ten years of decentralized acquisitions and installations of personal computers throughout the laboratory, the new centralized site-wide personal computing support role offers significant challenges. It is estimated that there are in excess of 2,000 personal computer systems installed at Fermilab. Many of these systems are used as embedded systems in data acquisition and/or control missions, but there is a substantial population of

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personal computers on the individual desktops. It is the desktop personal computers, estimated at 1,500 systems, that will be the targeted customers of the Personal Computing Support (PCS) Group. What we identified as support issues back in 1993:

- Few groups at the lab engaged in formal strategies for hardware configuration and support
- Existing support was performed on an ad-hoc basis by the person responsible for the system or a designated Department/Division "Guru"
- "Point Solutions" were common. Groups, Departments and or Divisions supply their own services, (ordering, delivering, installing software and hardware upgrades on each individual desktop system, backups/restores, and initial hardware and software support). This in turn has led to solutions which don't scale, and in some cases solutions which just flatly don't work in a production environment.

3 Requirements

The Personal Computer Support Group's charter offers a service to its prospective customers throughout the laboratory that is more responsive and less costly than the existing service currently in place. The requirements for the Computing Division's personal computer support strategy are:

- Scalability.
- Provides for adequate reliability, performance, backup, and security.
- It is tailor-able to meet the needs of the customer.
- It leverages the available Computing Division resources as efficiently as possible.

4 Our Solution

The overriding consideration in planning a strategy to deliver these services was that the service must be offered in a manner which is able to scale to site-wide support of the installed personal computers at Fermilab. The key points of the DCD/PCS solution are:

- Utilize a Client-Server model. Strategic software packages and critical data are located in a secure, and monitored location. The software applications and the data are served across the network to the client desktop systems upon demand.

- Create MOU's with customers. To avoid any misunderstandings between the PCS group and its customers as to the deliverables, there is a contract, an MOU, negotiated prior to support commitments.
- Use the correct platform. Our client-server model is iplemented withWindows NT Advanced Server. NTAS has the capability to serve both Macintoshes and PCs and can run on multiple vendor CISC and RISC computer architectures.
- Proper network structure. We have implemented the workgroup structure that was initially designed for large experiments at the lab (CDF and D0) with great success.

4.1 What services do we offer, what services are we unable to offer?

The services that the Personal Computing Support Group is currently able to offer include:

- Network connectivity and support (on-site and off-site).
- File Services (both individual and shared work group) with adequate backup and security planning.
- Office Automation and central services (Mail servers, web-servers, Meeting coordination systems.....)
- License management and/or usage metering to assure the most cost effective access to software products consistent with vendor product license agreements and DOE orders.
- Personal Computer virus monitoring, notification, and protection
- X-windows and terminal emulation.
- Access to shared printers. Consultation on hardware selection, acquisition management, service, and capacity planning.
- Consultation on software selection, acquisition, installation, support, and upgrades.
- Hardware and Software research and evaluations.

It is equally important for the PCS group to understand and note its limitations. The services that the Personal Computing Support Group is unable to offer include:

- Individual support for each and every custom or stand-alone installation of a personal computer on the over 1,000 desktop systems at Fermilab.
- Individual support for each and every software package installed on the personal computers at Fermilab.

4.2 How do we offer and support these services?

The Personal Computer Support Group classifies its services in three categories:

- Public Service responsibilities (provided to the Fermilab site as a general service).
- Contracted customer service (specific service responsibilities agreed to with customers).
- Research and evaluation of new personal computer hardware and software.

The services provided within the Public Service and Contracted Customer service will be coordinated through the Computing Division Help Desk. The client systems receive hardware support via a third party maintenance provider.

The Personal Computer Support Group expects that the necessary end-user training in operating systems and applications will be performed by the existing Computing Division Coordinator of Training. The PCS group will make itself available to the Coordinator of Training for recommendations of class offerings.

5 Site Responsibilities:

The PCS group, as computer professionals, take responsibility for certain tasks for the site. This expertise is made available to everyone on site. Services offered to users at the Fermilab site, regardless of having an MOU or not, include the following:

- Monitor the internet for information on viruses and make the most current disinfectants available to all users on the Fermilab site.
- Coordinate the issuance of a personal computer hardware maintenance contract for the site. Coordinate the issuance of software updates and support contract for the most popular software packages (Quickmail, Microsoft Word, Excel.....).
- Provide personal computing expertise and support for Fermilab sponsored events both on-site and off-site.
- Publish a recommended hardware and software configuration for desktop systems purchased for standard use.
- Maintain a ”virus-free” shareware software volume for the site.

6 Where we are Today

The PCS group has followed its initial design plan with great success. We currently support servers and desktops in each division at the lab with only a handful of people. The lab has currently been restructured by the Directorate and the DCD/PCS group will now play a major role in providing pc support labwide. We believe our model will hold true as we expand.