

Three years in the Solution Center

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ABSTRACT

After thirty-plus years of making small “mid-course corrections” types of changes to the support paradigm, many on the Iowa State University campus thought it was time to make some more radical changes to the way we performed information technology support. The result was the Solution Center, a single contact point supporting computer and communication technology for Iowa State University faculty, students and staff. Bringing together resources and employees of Telecommunications, Academic Information Technologies, and Administrative Data Processing to staff the Solution Center was the first step in creating a center dedicated to flexibility and change. “Connectivity” was the initial driving force, assisting students and staff with Ethernet and PPP dial-up connections. Now having a single place that ‘hears it all’ has allowed us to initiate or at least participate on a number of projects to fix systemic problems with tested universal solutions. Recent projects include bringing web-based e-mail onto campus, creating our campus software installer CD (Scout), and merging our Kerberos database processes with the campus Windows 2000 Active Directory servers to create an integrated university-wide password system. Change is never as smooth as we would like, and these three years have seen some ups and some downs. By planning a flexible structure and allowing for natural changes, the Solution Center has proven to be a practical example for providing IT support in the large university setting.

Keywords

Help Desk, support, one-stop shopping

1. INTRODUCTION

Forget your password? Need to connect your home or office computer to the campus network? Want to create a Web page? Afraid you have a computer virus? Those are the old questions that three years ago spawned the Solution Center, a single contact point supporting computer and communication technology for Iowa State University students and staff.

Iowa State University, Ames, Iowa, is a large campus of 22,000 undergraduate and 4,000 graduate students with 2,100 faculty and 4,400 other staff. Wiring to all 120 buildings on campus was completed in the mid 1980s. This provided the backbone for Project Vincent (1989-1993), originally a collection of 1,000 Unix workstations for high-end researchers and their graduate students that now provides a single name and file space for everyone on campus. The name space allows for Kerberos authentication in a number of contexts. Similarly, the AFS file

system provides a convenient location to expand incrementally for new services.

2. THE SETTING

Several groups cooperate to provide IT services to campus. The Department of Telecommunications (Telecomm) is responsible for the campus data and phone lines. Administrative Data Processing (ADP) supports business functions. Both of these groups report to the Vice President for Business. Academic and research computing is supported by 70 or more individuals in the departments, a number of College level support groups, and centrally by the Office of Academic Information Technologies (AIT), formerly the Computation Center. These last groups ultimately report to the Provost.

After thirty-plus years of making small “mid-course corrections” types of changes to the support paradigm, many on campus thought it was time to make some more radical changes to information technology support. The primary driving force in this was the increasing reliance on networked computers in the office, lab, classroom, Residence Hall, and at home. “Connectivity”, assisting students and staff with Ethernet and PPP dial-up connections, required contacting one office for jack activation and billing issues, another for a network-ID and domain name service, and possibly a third for assistance with installation and configuration.

3. IDEAS

Bringing together employees of Telecomm, AIT, and ADP to staff the Solution Center was the first step in creating a center dedicated to flexibility and change. A number of people contributed to the crystallization of the concept of a single point of contact (one stop shopping) for all connectivity issues.

One of the earliest suggestions was by the AIT Help Desk manager who realized that demand for service was growing, solutions were fragmented across organizational lines, and that the technical steps required at the time were too complicated for many people to do on their own. He suggested that the Help Desk move physically and figuratively away from its traditional connection to lab support and move into a space occupied by a group responsible for account creation and accounting on a mainframe environment that was being phased out.

At the same time one of our AIT Associate Directors became familiar with Cornell’s “Bear Access” program and began wondering how we could make it that simple for our users.

AIT's Technical Services group had a Communications and Systems Software team that was putting the final touches on a program called Scout to automate the distribution and installation of our supported network applications.

The student computer-fee taskforce had just allocated money to support a student network access project (SNAP) to assist students with Ethernet connections in the Residence Halls and a drop-in service for students living off campus who needed help with PPP connections.

Individuals in Telecomm and ADP were hearing from their customers how difficult the whole connectivity process was and how they just wanted to talk to one full time professional. Finally, the Provost's Information Technology council (InfoTech) discussed the situation and prompted the design of a one-stop shopping solution to the problem. This task eventually devolved to a committee that relied heavily on a former AIT User Services manager for the ultimate design.

4. DESIGNING THE SERVICE

This design (1996/97) of what came to be the Solution Center played heavily on the existing strengths of the participating groups. AIT had the consulting staff, account creation responsibilities, and centrally located site. Telecomm contributed staff, particularly during periods of peak demand, a call distribution system, and access to their databases of jack activation status and order processing. ADP also contributed access to their employee and student databases and some staffing.

The final design for peak demand times called for

- four front-line (walk-up) positions filled with full time professional staff
- space for ADP satellite office
- three positions staffed by students for first level phone support
- one SNAP member scheduling visits to the Residence Halls
- one SNAP member working on drop-off systems
- a full-time manager.

The front-line positions would contain three AIT consultants and one Telecomm specialist, with each person cross-trained in the use of each area's database. These positions would be co-located with the campus computer-reselling agency (Microcomputer Products Center, MPC) and provide post sales support for software and hardware purchased there. Additional phone support could be provided from the front-line but that was not their primary function.

The participating groups contributed management level staff for a steering committee that meets weekly for information exchange and selecting new areas of focus. This has provided a mechanism for getting advance notice of other department's activities, for

discussing common needs, and for understanding the various policies and procedures in place in the different departments.

5. DESIGN TO EXECUTION

Not everything in the plan came to fruition. Funding was sought for a large scale remodeling of the space and initial plans were drawn up by the architects, but only a minimal renovation was funded which prevented the complete co-location with MPC. The plan called for two additional AIT consultants but only one was approved. There has been a high level of turnover in this position with four different people filling it in three and a half years. As a result, the existing AIT second level consulting staff was called upon to fill these hours. This caused more than a little concern among some staff who felt this was a reversion to an ancient system requiring them to spend too much time on first level screening activities. Of the six staff that originally shared these duties, three have moved on. All still work in AIT but have taken roles that use their skills in training and web support.

6. ACCOMPLISHMENTS

One of the first projects to come our way was working with the summer Orientation program. This allowed a student to move directly from getting their photo ID card to a workstation where they could use a web form to select their network-ID and set their password. Students funded by Orientation assist with this process. Now 80% of our students come to campus in the Fall with a username and password. A side effect of this is that we are doing password fixes for the more motivated of these people in June and July instead of late August.

Having a single place that 'hears it all' has allowed us to initiate or at least participate on a number of projects to fix systemic problems with tested universal solutions. Three years ago we had 10,000 computers with iastate.edu IP numbers. Today it is over 26,000. There were under a thousand Residence Hall computers when we started. Last year we had 4,400 online. We handled 40,000 telephone calls the first year. Last year phone contacts only increased to 44,000. A single contact point, streamlined procedures, better documentation for users - it all adds up to improved service and more manageable loads.

Our latest project was to assist in bringing web-based e-mail onto campus, ramping up from software selection and customization to 4,500 users in a few months. Current WebMail activities involve designing training for an additional 3,500 students during the Fall New Student Days. We hope this will turn into the standard mail package for all students, although we will still offer Eudora for those needing a more fully featured product.

Other information technology projects include creating our campus software installer CD (Scout), and merging our Kerberos database processes with the campus Windows 2000 Active Directory servers to create an integrated university-wide password system. In both of these efforts, the staff of the Solution Center provides the initial testing grounds. As an example of the level of effort here, one Solution Center member designed and completed a comprehensive test of the Scout CD installation that required 75 loads of the Windows system he was using to simulate all the

combinations of OS level, presence of Office, types of drivers, and type of Scout install. In doing this he discovered ten bugs that have been fixed so that none of the ten thousand people downloading this software will experience those particular troubles. One of them was a bug that had existed since the initial Scout development nearly four years ago, but could never be tracked down.

7. FUTURES

The future will continue to demand that we build more and better solutions. This coming year will see:

- a predictable increase in demand due to all jacks in the Residence Halls being active,
- three wireless connection projects,
- more Scout installs over an expanding DSL service,
- merging the Extension mail service into the central campus service,
- increased use of WebMail,
- cheaper disk rental prices to our customers,
- and movement to a fee-based print service in the labs.

Obviously on the horizon, but harder to assess for impact, we see:

- the leading edge of Windows 2000 in office and lab environments,
- the creation of a single campus directory service,
- playing lead roles in University wide security and anti-viral initiatives,
- web portals,
- e-commerce,
- a new cable modem service in town,
- and a new IMAP offering.

There will undoubtedly be two or three major developments that the Solution Center will need to anticipate that someone is just now inventing.

Change is never as smooth as we would like, and these three years have seen some ups and some downs. By planning a flexible structure and allowing for natural growth, the Solution Center has proven to be a practical example for providing IT support in the large university setting.