Expected Outcome 1: Academic Computer Lab Support

Engineering Network Services will provide modern computer labs, open 24x7 for all College of Engineering students. The labs are reserved for academic classes and for students to do all computer-based coursework.

Assessment Methods

Method: Track usage of all computer labs.

Maintain logon records of all lab machines and aggregate that to make sure that labs are well utilized and that there are always enough computers available for classes and for students to use at other times. The graph below shows the number of users logged in to a particular lab during a one month period.

Findings

Using the data above we have been able to confirm how many computers are used at any time. We track this usage in all of our academic computer labs.

How did you use findings for improvements?

Using these results, we were able to improve our advertisement of computer lab locations. Adding these graphs to our departmental website allowed students to find labs that were currently available. We have used this information to reduce the number of computers in particular labs, while increasing in other areas.

Additional Comments:

None
Method: Track health of all lab computers

We use a software package (Nagios) to monitor individual computers in our academic labs. The program maintains history of computer availability and problems. It also has the ability to automatically notify our support staff when there are problems with particular computers.

Findings:

We have been able to confirm that our systems are nearly 100% available. When a machine is down, we are notified immediately. Using the historical data, we are also able to identify machines which are having recurring problems, and we are able to replace with more reliable machines.

How did you use findings for improvement?

We have been often able to predict machine failure in advance. In other cases, we were notified automatically and were able to replace a failed machine immediately.

Additional Comments:

None.
Expected Outcomes: Research Computing Support

Engineering Network Services will maintain computer services required by the clients (faculty and staff) to support all research efforts within the college. This includes making software available to all users and monitoring server performance.

Method: Tracking Software Usage

Our software packages use network licensing. The network license servers maintain logs which allow us to track the historical usage of each software package. When a user starts a particular application, a log entry is made that a license has been checked out. When the user finishes using the application, the license is checked in and is available to another user.

How did you use findings for improvements?

We found that several software packages are no longer in use and we were able to reduce or eliminate annual renewal fees for those software packages. Additionally, we were able to justify expenses for renewing or expanding support contracts.

Additional Comments:

None.

Method: Monitor Server performance

We maintain historical data for all of our server computers using a software program called Munin. We also use the Naggios program to automatically alert us of problems.

Findings:

When we receive a phone call or notification of a problem, we are able to refer to our current data to find exactly what problem may be occurring. Because server loads are generally not constant, but irregular, we are able to use our historical data to know whether the current data is typical or not.

How did you use findings for improvements?

The following graph helped us to find a problem when a phone call reported that our website was slow. We saw that an irregular amount of data was being downloaded. Using the website logs, we were able to identify the traffic and contact the owner of the data on the website causing such a high volume. We moved the large data to a different server to reduce the load on our website.
Additional comments:

None.