

Student-Run ISP Lacks Resources

Easy Reader - Cynthia Dizikes - January 27, 2005

It's a Friday evening and Redondo Union High School is closed for the weekend. The lights have been turned off and the building is silent except for the Network Control Center where the staccato click of keys and human voices can be heard over the whirl of the computers. Pedrom Adeli and Spenser Clark, the current student managers, and Kevin George, a recent graduate who used to manage the service, have remained after school in the NCC— a room containing the four servers that run Beachnet, the district's internet service provider. Their task is to prevent another total crash of the system like the one that happened the previous weekend on January 15.

The breakdown, which took five days to fix, affected individuals and organizations from the South Bay area to the Alaskan Wild Sockeye website.

Beachnet began as a small classroom project in 1994 to encourage students to learn more about computers and get the school wired. It has expanded to include the Redondo Beach Chamber of Commerce, all twelve campuses in the Redondo Beach Unified School District, and the Hermosa Beach Unified School District. Information pertaining to the city, unions, teachers, parents, employees, and the school's budget are posted on these sites. For many people, it is a primary source of information for the school district.

Beyond the district, Beachnet serves as an Internet service provider for residents of Redondo, Hermosa, and Manhattan Beach. Private organizations can also pay to have it service their websites.

Another perk of the student run ISP are the free email accounts that teachers, classifieds and the administrative staff receive. The teaching staff alone gets approximately 400 free email accounts. According to school board member Carl Clark – who also happens to be Spenser Clark's father – this is a huge financial asset to the district.

"We're looking at something in the neighborhood of \$98,400 in free service to the community," he said.

When the ISP was launched a decade ago, it was the first of student-run Internet provider in the United States. At that time, however, the Internet was nowhere near as essential in daily business as it is today.

The school, like any large organization, relies on the quick transfer of information via the Internet to operate efficiently. For the students who spend 5-10 and sometimes 12 hours per week working on Beachnet, it is a great opportunity to work with computers and see practical results. However, without the proper equipment it is becoming harder to keep the system functional. And when the system crashes, students suddenly find themselves working eight hour days, unpaid, sometimes through weekends and even holidays.

The system has crashed four or five times since the beginning of the school year, but according to Adeli, only one was as serious as the crash on Jan. 15. It happened after the school turned off the power to the building.

The high school has recently been required to shut down power due to construction. If all goes right, when the power is turned off, the servers run on Uninterruptible Power Supplies until the power switches to the generator.

On Jan. 15, that didn't happen.

When the building lost power the switch never took place between the UPS and the generator. As a result, the computer system crashed and severe damage was done to the primary hard disk.

"It appears that this may have been a wake-up call to the administration," Carl Clark said.

"They have been relying on the network without ever having taken stock of what the network needs."

According to Adeli, they had a similar problem on December 30. Although he was able to fix it by himself, he notified Yolanda Ramirez, the Adult Instructor who handles the NCC while the students are in class.

“[She] began calling people who should know and may have been able to prevent another such event from occurring...” he said. “We were assured and reassured that the generator and switch did work and that we had nothing to worry about because the switch would be instantaneous and no crash would be expected.”

Approximately 15 days later the power was turned off; the switch did not occur and the system crashed.

“My younger counterpart, Spenser Clark, and I were both stumped,” Adeli said. “We attempted the same solution as the last time the problem had occurred to no avail.”

The district sent in engineers from SCS Engineering. Adeli said they were of no immediate help but they did bring the larger problem of inadequate equipment to the district’s attention.

“They [the SCS Engineers] have been extremely helpful in getting the district to finally recognize the need to adequately fund Beachnet,” Adeli said. “After years upon years of under funding, the effects are finally being exposed.”

Of the five servers only one is new. Three are obsolete and the other one is completely inoperable. The old ones were replaced five years ago. After five years everything starts to break and you need new servers, said Spenser Clark.

“We should be replacing or upgrading before that happens,” he said.

Until recently, Abe Mirrashidi, a district employee who acted as the Technology Lead in the NCC, helped Adeli and Clark. He has left the district for a job at Apple and a replacement has yet to be hired.

Without additional help Adeli and Spenser Clark are expected to do what they have always done – run the ISP with completely outdated equipment. As a result, they end up with situations like last Friday and Saturday, when the students spent nearly eight hours each day monitoring the system to insure another crash didn’t occur.

Although the NCC has received donations of 9GB drives and 18GB drives, the system still operates on a laughably low amount of storage space. “Each system appears to have one 36GB hard disk,” Carl Clark said. To put things into perspective, he added that a standard laptop today has a 40GB hard disk.

Adeli also acknowledged that the age of the servers was a problem.

“Now as to why our servers are so antiquated,” said Adeli, “It’s a matter of the district withholding funds from the room.”

Parent Jerry Shaw volunteered to look into the matter. After he observed Adeli and Clark work on the recovery of the system he quoted the need for new servers at \$10,000, an automated backup system at \$3,000 and a new UPS at \$2,000.

However, in a school district that needs to make mid-year cuts to stabilize its current budget, financial help seems unlikely. Board member Jane Diehl said the district did not have the resources to supply the NCC with large amounts of money to upgrade the system.

“That’s going to be a difficult task to achieve,” she said.

Diehl recommended looking to outside sources to get money or new equipment.

Carl Clark said the district should invest money in the network because they cannot afford the system crashing.

“It is an internal jewel that the district has to support,” he said. “...They need to look at it as a necessity and they aren’t.”

Adeli hopes that whatever happens, the operation of the student-run ISP isn’t fundamentally changed.

“We are a student run ISP and prior managers have had the same responsibility put on their shoulders and to change the dynamic of the room would be criminal,” Adeli said. “There was a student run Beachnet before Abe was the technology lead and I hope that it will stay this way for a long time after I leave.”