

## CAPISTRANO UNIFIED SCHOOL DISTRICT

### BUSINESS CASE STUDY

### SAVING DOLLARS WITH IP COMMUNICATIONS

#### Capistrano Unified School District

##### Overview

The Capistrano Unified School District covers 195 square miles in southern Orange County, California. The district educates over 48,000 pupils in 35 elementary schools, 8 middle schools, 5 high schools, one alternative education facility, and one adult education facility. The ages of the schools in the district vary widely.

District enrollment is about 73% white, 18% Hispanic, and 5% Asian. The district is growing rapidly, and has doubled in size in the last twelve years. The district is mostly affluent, and reflecting its rapid growth, is still considered rural for school funding purposes. The district receives approximately \$6,000 per student in annual funding and has a low drop out rate. The district has moderate competition from private schools in the area.

##### History

Capistrano Unified School District did not originally plan a complete conversion to IP telephony. Instead, it was decided to test a pilot IP Telephony deployment at a new elementary school that was under construction during 1999-2000. Reflecting the school district's initial uncertainty about IP telephony, installation of the required switches and wiring at the new school included equipment that would easily allow the school to switch to traditional analog telephones if the IP telephony deployment was unsuccessful.

The district installed its IP telephony system at the new school using only in-house personnel, though considerable assistance was received from Cisco's System Engineers, according to Tom Rayburn of CUSD.

##### The IP Telephony System

The initial roll-out of the system was completed with no significant problems encountered, and the results were so successful that the district decided to implement IP telephony district-wide. Capistrano Unified School District has thus far deployed IP telephony to 20 schools and the district's central offices. The district's strategy is to migrate schools to IP telephony as each school's PBX fails or is due to be replaced at the end of its economic life.

To prepare for the migration to IP telephony, the district has implemented in-line power switches as the district network standard. This allows the district to quickly and easily migrate individual schools to IP telephony with minimal network disruption.

The district specifies Cisco 7960 IP phones for administrators and Cisco 7910 and 7902 phones in classrooms. The IP telephony system operates on a Cisco Call Manager server and a standardized Cisco network platform.

The Cisco Call Manager server is connected to a Toshiba Strategy analog voicemail server box. The Toshiba voice mail system, which was acquired before the IPT roll-out,

was a significant investment (over \$100,000) and is equipped to handle up to 5,000 employee mailboxes, making the district reluctant to unnecessarily replace it. There was some initial trepidation about connecting the Toshiba and Cisco systems together because it was the first time it had been done in the “real world”. Both companies had stated that their systems were standards-based and the integration should work fine, at least in theory. To the immense relief of everyone involved, the integration of the two systems was easy and seamless, down to the last detail, including the red light on the Cisco phone that blinks when there is a new voicemail on the Toshiba server.

The district has adhered to a couple of core principles concerning its IP telephony migration. First, it is better to roll it out one school at a time rather than multiple schools at once. In this way, any problems that surface can be easily remedied at a single location. Secondly, it is very important to clearly delineate responsibilities for the IP telephony system between those responsible for data systems and those responsible for voice systems. To do this, CUSD utilizes the OSI model of dividing the system into layers with distinct responsibilities for the functions of a layer residing with voice or data personnel, thus avoiding unnecessary confusion.

### **Benefits Realized**

For the pilot IP telephony deployment at the new elementary school, CUSD was able to tap into state funds for 50% of the cost of the school, and into funds realized from developer fees for the other 50%. Because the school district was able to leverage the Call Manager server and other IP infrastructure from the Greenfield implementation across the other schools in the district, implementing IP telephony in schools ended up costing the district's operating budget little more than the cost of each school's IP phones.

The district has estimated its average telecom savings per school for migrating to IP telephony at \$700 per month for high schools, \$500 per month for middle schools, and \$350 per month for elementary schools. According to Tom Rayburn of CUSD, migrating to IP telephony provides immediate positive returns to the district when compared to the alternative of replacing a PBX. IP telephony at CUSD has also proved to be very reliable.

### **Plans for the Future**

In the intermediate term, CUSD is planning to roll out IP telephony district-wide. In addition, the district is looking to leverage its IP infrastructure with a clock/bell/paging system and is also rolling out IP video surveillance systems in selected schools with theft and/or vandalism problems.