

SHARED TELEPHONE SERVICE: CSU FULLERTON AND CSU DOMINGUEZ HILLS

CSU Fullerton and CSU Dominguez Hills provide telephone services with a shared PBX system with locations at both campuses.

CSU Fullerton upgraded its phone system to a digital Voice over IP (VoIP) in 2012 and implemented Session Initiation Protocol (SIP) trunks in 2013. The carrier class VoIP is capable of supporting up to 100,000 users. At the same time, CSU Dominguez Hills had explored various options to upgrade its legacy TDM PBX, which has been at the end of life for a few years. Yet CSUDH had discovered most solutions weren't suitable financially or contractually.

The CSUF team eventually designed a solution that can accommodate the hosting of CSUDH telephone services on the CSUF PBX. This involved the splitting of the PBX to host in both the CSUDH and CSUF data centers, providing geographic diversity.

The shared system is designed to operate in survivability mode, offering local phone services including 911 in the event of widespread area network disruptions. Telephone system upgrades are always challenging due to the need to avoid disruption of service for an extended period of time. The co-existence of the legacy TDM and the new VoIP PBX was important during the migration of the project to avoid significant service disruption. To help reduce cost, the CSUDH telephone services were riding on the CSUF contract with the PBX vendor and the telecom carrier.

This project helped reduce the total cost of ownership and improved the availability of telephone services for both campuses. The migration of CSUDH users onto the new VoIP PBX began in July 2015 and is expected to be completed by January 2016. The implementation budget for CSUDH is less than \$900,000. The implementation cost includes 2,200 desk phones, perpetual licenses, PBX and infrastructure upgrades.

OPPORTUNITIES AND SOLUTIONS

The successful implementation of this project may help other campuses to leverage similar solutions. There are some campuses still running legacy PBXs that are at end-of-life. This private cloud solution can help many campuses to reduce the cost of telephone services.

IMPACT AND BENEFIT

CSU Fullerton's telephone services have been very stable since the VoIP upgrade; and the cost of telephone services has been lowered as well. CSU Dominguez Hills also will benefit from stable phone services and reduced costs.

MILESTONES

- Jan 2016**
 - Ported all CSUDH phone numbers to the new carrier.
- Jan 2016**
 - Completed migration.
- Sep 2015**
 - Began migrating campus users.
- Aug 2015**
 - Migrated the IT users.
- Jul 2015**
 - Migrated test phones and completed testing.
- Jun 2015**
 - Completed PBX configurations and created the CSUDH enterprise.
- Jun 2015**
 - Split the CSUF VoIP PBX and relocated the redundant components at CSUDH.
- May 2015**
 - Hardware ordered.
- Feb-Apr 2015**
 - Design development.
- Jan 2015**
 - Discussed the possibility of hosting CSU Dominguez Hills users on CSUF VoIP PBX.

QUALITY, COST AND DELIVERY

The VoIP PBX is designed with full redundancy and the telephone system is designed without a single point of failure component. The project cost is much lower than what has been proposed in RFP responses.

LESSONS LEARNED

- 1 Existing business processes may not be designed to support unconventional solutions.
- 2 When considering partnering or creative solutions, begin engaging vendors and business units outside of IT early.

QUANTIFICATION AND RESULTS

PBX successfully split and deployed at CSUF and CSUDH.

Functionality testing was successful.

Integration with the existing PBX was successfully completed.

Primary and secondary path to PSTN configured and tested successfully.

CSUDH test phone deployed and tested successfully.

CSUDH IT users migrated and tested successfully.

PROJECT TEAM

CSU FULLERTON

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