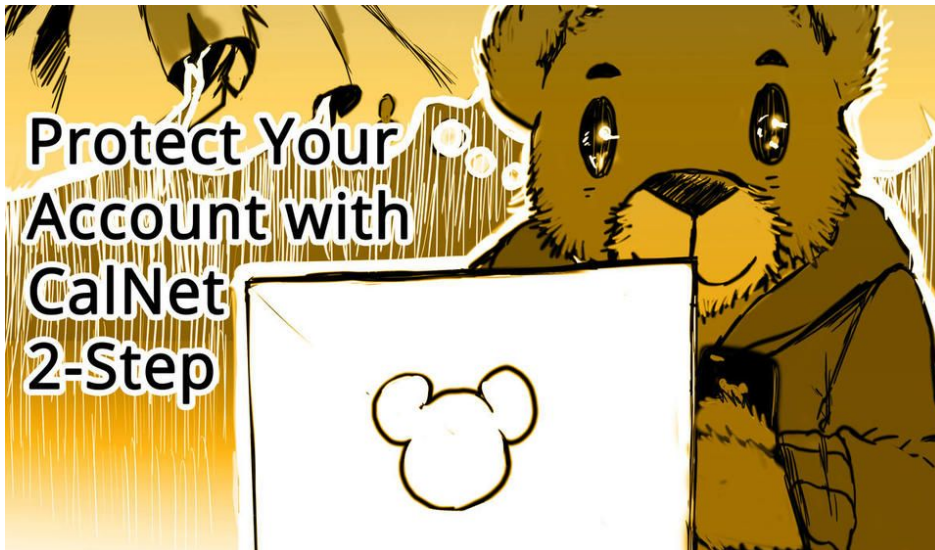


## Doing the 2-Step at UC Berkeley



### Submitter

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### Project Team

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### Project Sponsors

- Larry Conrad, Executive Sponsor
- Jeremy Rosenberg, Functional Sponsor

### The Problem

Cyber crime cuts across industries. Healthcare, government, banking, security organizations and higher education have suffered security breaches in the last few years. UC Berkeley is no exception. In our environment, we depended on passwords for our members to log into our systems. A password is not only a single point of failure, it can be easily hacked, stolen, reset or bypassed by cyber criminals.

### The Proposal

In November 2016, we proposed 2-Step verification, a security measure that adds another step to the login process so that even if a person's password is stolen, their account can still be protected by that

extra security step. Typically, that would be a tap on your phone or typing in a code that's sent to your phone.

We'd tried many times in the past to propose such a solution and were elated that our proposal was finally funded in January 2017. Then reality sunk in: how does a 5-member team like ours get more than 30,000 faculty and staff on 2-Step STAT?

## Here's What We Did

- **We used what we have**

We had spent the last three years bolstering our foundational systems and user-facing applications so that by the time we acquired Duo for the 2-Step service, integrating it to our infrastructure was relatively straightforward. We leaned heavily on Grouper, a group management application, to help us determine which members of our population are required to use 2-Step. Grouper also helped us track those who have not yet signed up by department (a very nifty trick!). We extended CalNet Account Manager, our custom application for managing login accounts, to allow users to enroll and manage their 2-Step devices. We upgraded CAS, our authentication service, to be compatible with Duo and to recognize the groups we defined for 2-Step. Supporting these applications is our newly built system called Berkeley Person Registry, where we store identity data for the campus.

- **We asked friends to help**

From the get-go, we partnered with Campus Shared Services - IT (CSS-IT) to work out processes, materials, tools and training needed to provide support to our 2-Step users. We also made sure that our documentation was reliable and kept up-to-date as we uncovered and resolved issues during our implementation.

Realizing that CSS-IT would be taking on this work without added personnel, we approached the Student Affairs IT (SAIT) help desk, which is staffed by students, to lend additional Help Desk support. Collaborating together, we created a Help Desk ticket queue that worked seamlessly between the two departments.

- **We made it easy and accessible**

We put a ton of information on our website - not just about the how, but also the why of 2-Step. We have how-to guides, tips and tricks, FAQs, resource materials and tools for campus departments - we even have a video! For those who just wanted to enroll (who reads instructions?), we streamlined the 2-Step enrollment process to make it as intuitive and easy as possible. Most of our users enrolled within minutes.

And if all of that didn't do the trick, we showed up to as many campus department meetings as we could, to get them on 2-Step. We also held drop-in sessions all over campus for those who needed on-on-one help. No one had any excuse for not signing up.

- **We asked more friends to help**

We founded a volunteer group of about a hundred earnest, good-hearted IT colleagues who valued this effort - we called them the 2-Step Ambassadors. We held bi-weekly check-ins to get them the latest scoops and the resources they needed for their own efforts to get their departments on 2-Step.

We also wanted campus users to conveniently pick up hardware tokens, a 2-Step device option. Since we didn't have the staffing for this, nor were we located in a central area on campus, we asked for help

again. Key departments quickly stepped up and we established three distribution centers at strategic locations around campus.

- **We had carrots and a stick**

We gave away fun prizes like fidget spinners. Who knew they would be such a hit! And who doesn't like iPads? We had 4 iPad raffles for those who enrolled with 2-Step. Each raffle bumped up enrollment and made us and the winners very happy.

As for the stick, we gave everyone a month's warning before the deadline. Whenever they logged in to their applications, they would see a reminder to sign up for 2-Step or be locked out. The only way to make that ominous message go away was to sign up.

## **Our Project Timeline**

Purchased 2-Step software license (Duo)	April 2017
Technical development and implementation	March 2017 - June 2017
Developed Communication and help desk material	May - July 2017
Conducted 2-Step pilot program with our own department	June - July 2017
Began voluntary enrollment for staff and faculty	October 2017
Required 2-Step for all IT staff	November 2017
Announced 2-Step requirement for staff and faculty by April 16, 2018	January 2018
2-Step campus outreach campaign	January - April 2018
All faculty and staff on 2-Step	April 16, 2018

## **So, How Did We Do?**

On January 22, 2018, our chancellor announced that 2-Step will be required for faculty and staff and by April 16, 2018, we got all 31,000 of them signed up. Whew! We averaged 187 calls or 8% contact rate per week for the entire population during those months - much lower than we expected, which is industry average of 10%. We're ecstatic with the way this project turned out and owe much of our success to our collaborative partners - whether they're formal partners who provide Help Desk support - or informal partners who volunteered their time and efforts to get everybody on board. It truly takes a village.

This project is a part of UC Berkeley's important initiative to harden security. Its efficacy will be borne out in the coming years as strengthened security reduces the risk of future breaches.