LibraryVPN

Lebanon Public Libraries requests a 1 year National Leadership grant in the amount of $75,200 to fund the first phase of the LibraryVPN project. Along with the Leap Encryption Access Project (LEAP) and the Westchester Library System, the Lebanon Libraries will pilot a self hosted Virtual Private Network (VPN), service, "LibraryVPN", for use by library patrons making it possible for them to safeguard their information online regardless of their financial resources or location. This first phase will be followed by a second phase during which the partners will recruit a larger group of early adopters, and later a third phase of mass adoption of LibraryVPN by all the Libraries and their patrons.

Both the Lebanon Public Libraries and the Westchester Library System have a history of improving digital security for their patrons by teaching digital security classes and making privacy software available on library computers. LEAP is a non-profit that has been dedicated to giving all internet users access to secure communication since 2012. They create software to make encrypted communications such as VPNs more widely available.

Statement of National Need

People are increasingly concerned by attacks on their online security and privacy. Those who cannot afford broadband access in their home have to rely on free public wifi hotspots where security can be minimal and privacy isn't guaranteed. Libraries already provide internet access to a wide variety of people, especially to economically vulnerable populations. Patrons who rely on this service benefit from the security and privacy the libraries provide, but they are otherwise left unprotected when connecting from elsewhere.

A solution to this problem is to use a trusted VPN service, where all your traffic is securely routed from your device through your VPN provider before it is decrypted and sent on to the open internet. However, there are problems with current VPN offerings. All reliable VPN solutions require a monthly fee putting them out of reach of those most vulnerable to exploitation and require people to place their trust in whatever VPN company they find. Some (especially free solutions) have not proven to be worthy of that trust by leaking or even outright selling customer data. This creates a situation of only having security and privacy available to those who can afford it.

Libraries are ideally positioned to help with this situation. Libraries historically have worked to provide privacy and security to people, are located in almost every community in the United States and enjoy a high level of trust from the public.

Project Design

Grant funding will support the achievement of three major milestones for phase one of the project:

1. Make LibraryVPN use the Integrated Library Systems (ILS) authentication mechanism

LibraryVPN will support the Standard Interchange Protocol (SIP2) for authentication. SIP2 is supported by many ILS vendors. By building to this standard, we will ensure that libraries hosting VPN services as well as their patrons will be able to rely on existing credentials and authentication mechanisms, making the deployment of the service and the adoption of the VPN client easier.

2. Create a Windows client for library patron use

Currently, Windows accounts for approximately 82.5% of desktop computer use in the general population. The LEAP project has clients for macOS, GNU/Linux, and Android. Development of a Windows client is necessary to achieve the wide adoption that we envision.

3. Deployment, documentation, training and bug fixing

This milestone will ensure that the deployment of the instances in Lebanon and Westchester libraries is accompanied by documentation and support. This will allow future libraries to have a smoother deployment process.

Future Plans

After successfully completing phase one of this project, we hope to secure funding from the IMLS or a similar funding organization for phases two and three. Phase two will increase the number of libraries adopting the software to ensure that it is ready for widespread use within the library community.

Phase three of the project will be to support general adoption. Phase three will consist of increasing awareness of the project and providing training and support to libraries that wish to deploy it. We hope to partner with a national organization that has expertise of this type of work such as the Electronic Frontier Foundation or the Mozilla foundation.

Performance goals and outcomes

For this grant to be considered successful the following goals will be met:
1. Libraries will be able to provide VPN services based on the software developed.
2. Patrons will be able to authenticate against a library's ILS using the SIP2 protocol.
3. The VPN client software will be available for the Windows operating system.
4. At least two library systems will have piloted hosting the software as Alpha testers.
5. Software will be available for download on Github so additional testers can provide feedback in phase two.

National Impact

This project combines two services that libraries already perform to extend library practices into a new, and extremely relevant, area. Libraries provide assistance and education about digital security and privacy to patrons and they host services for patrons. By hosting a VPN for patron use, they build on these existing services. The result will be strong security and privacy protections available to all of the library's patrons regardless of their financial status. This will increase security for patrons, especially those who can't afford it on their own. Additionally, this will provide libraries with more outreach opportunities. By showing their value in digital security, they can further engage with their communities.