LFN Mentorship Program for L3AF on Windows

Daniel Havey, ...

Title	L3AF on Windows
Status	APPLICATIONS CLOSED
Difficulty	MEDIUM

*The L3AF TSC will vote on this project on March 8, pending quorum

Description

In this project the student will participate and contribute to OSS projects L3AF and eBPF for Windows led by Walmart, Microsoft and contributed to by WiPro.

L3AF is an API for cross-platform, multi-cloud Enterprise eBPF deployment. With the R1 public release of L3AF R1 one of our next goals is to strengthen our multi-platform capabilities by supporting eBPF for Windows. The intern will work with the L3AF and eBPF for Windows teams to bring the cross-platform vision of the L3AF project into reality for a future release.

To do this the intern must:

1. List the eBPF-go APIs used by L3AFd.
2. Determine if wrapper code exists for the APIs in the eBPF for Windows code.
3. If not write a wrapper one and submit a PR.
4. Write code for L3AFd to use these APIs when on Windows and submit PRs
5. Testing, testing, testing...

Familiarity with the following is a plus:

Additional Information

GitHub for L3AF

GitHub for: eBPF for Windows

GitHub for: ebpf-go

Release notes for L3AF R1

Learning Objectives

This internship is a great introduction to open source development,, collaboration tools. The intern will be immersed in the Linux Foundation open source community and tools by joining the L3AF project and working in close collaboration with our corporate partners from Microsoft and Walmart. In addition, the intern will become intimately familiar with the following tools and practices.

1. GitHub and the PR process.
2. C coding practices on Windows code.
3. Cilium ebpf-go library
4. The L3AF project
5. The eBPF for Windows project

During this internship the intern will learn how to collaborate professionally with corporate and open source professionals from LF and our corporate partners and will be the key individual responsible for developing a key component of a high visibility, high impact LFN project.

Expected Outcome

- Working L3AFD on Windows code
  - Baseline CICD test (on par with Linux testing)

Relation to LF Networking

The L3AF project is a member of LFN.

Education Level

Students must be in enrolled in an undergraduate or graduate program in Computer Science, Engineering or equivalent.

Skills

- Proficient in GO language
- familar with Windows Visual Studio or VS Code

Future plans

The L3AF project makes a "Bullet on the Box" claim to be not only multi-cloud, but also cross-platform. Currently cross-platform is an aspiration because L3AF supports Linux only and no Windows. This successful internship will produce code and deliverables that fulfil this promise and mark a pivotal moment in the lifecycle of the L3AF project.

Preferred Hours and Length of Internship

Full time prefered

Mentor(s) Names and Contact Info

Click here to apply

Daniel Havey - dahavey@microsoft.com

Dave Thaler - dthaler@microsoft.com

Please include the following in your application:

- Resume
- Cover Letter
    - A letter to the program covering the following topics:
        - How did you find out about our mentorship program?
        - Why are you interested in this program?
        - What experience and knowledge/skills do you have that are applicable to this program?
        - What do you hope to get out of this mentorship experience?
- School Enrollment Verification
    - Students must upload proof of enrollment (college transcript, or copy student ID, or admissions offer if graduating from high school).