The Linux Foundation

Promoting Adoption

As the Linux Foundation approaches its 20th anniversary, we sit down with Jim Zemlin to talk about how the nonprofit has expanded its mandate since its inception. *By Mayank Sharma*

In 2000, the Linux Foundation arose from a merger of Open Source Development Labs (OSDL) and the Free Standards Group (FSG) to work towards standardizing Linux and promoting its adoption. Recently, we caught up with Jim Zemlin, the Linux Foundation's long serving executive director, following his keynote at the Open Source Summit Europe 2019 [1] in Lyon, France, to discuss how the nonprofit has matured through the years.

Linux Magazine: What does the Linux Foundation do? Not through its various groups, but what does the foundation itself do?

Jim Zemlin: So there's a few ways to think about the foundation where we are the infrastructure that allows these projects to be a good upstream for a lot of, in particular, commercial downstream usage. And that involves managing the intellectual property. So we have several attorneys on staff who manage the governance, the intellectual property of those projects.

This year alone, we will have people sign 33,000 contribution agreements. And so just the processing and management of all the intellectual property agreements and frameworks around these projects is a lot of work.

We are an event organization. This [Open Source Summit Europe] is one of 150 events that we will run this year. The biggest event will be about 12-13,000 people in November.

LM: Open Source Summit Europe isn't the biggest?

JZ: No this isn't even close. Our KubeCon event in November [2] will be [the biggest]; I think it'll be somewhere probably between 12,000 and 13,000 people. And then we have small hackathons. And then this [Open Source Summit Europe] is sort of a midsize.

We are an e-learning organization. So we have an entire training team that creates OpenJS certification that provides free learning tools and curriculum for people from all over the world to learn about Linux and Kubernetes and all of our projects.

We promote all of these projects; we're the manager of the IT infrastructure for a lot of these projects. So making sure that in addition to projects that use GitHub or GitLab, we have, you know, CI/CD frameworks and all the tools that you would need to release software and do that in a secure way.

We do research; we're a research organization. One example is we're partnering with Harvard University to try and understand what the world's most important software is from a security and usage perspective and understand how people behave in those projects and how we could help improve their security. Those are the fundamental things that we do for all the projects that we promote.

LM: How has the Linux Foundation grown over the years? Is there something

that you're doing now that you would not have thought of doing a decade ago?

JZ: I'll tell you a story [about] my first date with my now wife. She is a tech executive herself. She's a partner at PricewaterhouseCoopers and went to Harvard Business School, a very Type A person. So this is a blind date. She asked me what I do for a living. And I say I work at this nonprofit, and it's open source. It was like 16 years ago. The look of disappointment was just palpable. She was checking her watch, like "I must get going."

Fortunately I convinced her to be my wife. But I think back then a lot of open source was about evangelizing the concept of open source – that it was safe and a better model for innovation. And I don't think we ever thought that Linux would be as successful as it is. I don't think we were ever constrained in our thinking. But I mean, it's just now the most ubiquitous and successful software in the world. I wouldn't have thought that the open development model would leap into adjacent areas around standards setting and data, the things I talked about this morning [in the keynote]. So, you know, those were things where we, to some degree, stumbled upon them. But in many ways – and I think Linux is the best example – there's no roadmap for the Linux kernel, right? It sort of works with how the market and the world is evolving. We've been similar in that way, but we have a set of core principles around having projects that are open for anyone to participate in; [you] don't need to join any organization to do that. We believe in open technology. And those are the things that guide us as we choose new opportunities to work on.

LM: I was just reading about the Academy Software Foundation [3], and you mentioned in a talk that it took you two years to get it up and running. Is that typical for a project? What are the conversations that happen behind closed doors?

JZ: At the Academy Software Foundation, Rob [Bredow], who I mentioned in my talk, is the president of ILM [Industrial Light & Magic] – I think he was the CTO of Lucas at the time. [He] convened a group of the leading technologists from all the major film studios at the Academy of Motion Picture Arts and Sciences down in Los Angeles. It was a cool meeting, because it was in the boardroom of the Academy. These are the people who created the Oscars, so there's a mystique to it. And this was pretty early in that they understood that by sharing the maintenance and development of this underlying infrastructure technology, they could improve things for everyone. But that it is also an industry [where] – because similar to software – films are based on intellectual property, and trademarks and copyright that are highly protected and are, you know, sort of how they make money.

So it took a very long time, not to convince the technologist, Rob – I mean he's just a engineer's engineer – but the lawyers took us a couple of years to convince that this was a safe framework and that all those competing studios could work together in a safe way that would safeguard both their intellectual property and allow for the open collaboration.

So that is probably 80 percent of what I do is work with a lot of folks who may not understand open source software or how to do it, but have understood through looking at other successes that this would be a good way for them to work with their industry. And, you know, we've done that in telecommunications here in Europe in the energy sector with our LF Energy project [4]. We've done it in the financial services world with our blockchain initiative, Hyperledger [5]. And we spend a lot of time working to convince the decision makers and stakeholders in these big entities that it's okay to open their source code – that these sharing regimes are safe and reliable. And that just takes a lot of time.

LM: And how do you decide on an area or aspect of computing that could use the Linux Foundation treatment?

JZ: We have a huge amount of inbound interest of entities who come to us and ask us to help them understand how they can use the methods and the tools that we have to help them in a particular area of technology, whether it's cybersecurity or, you know, in the case of the utility sector with energy. Recently we've been having conversations with some life science companies. Governments often approach us and ask us how they could use open source software to create better outcomes for their citizens, and we do spend a lot of time filtering through those requests to make sure that anything we work on will have a big impact that adheres to our open principles and [whether] we have the resources to support them. Those are kind of the ways we think about choosing what to work on.

LM: Do you make requests to other parties to get together and work on something?

JZ: I haven't in awhile. We were not necessarily out there soliciting. I think there was a period of time where we looked at, for example, a vertical view of the software stack and asked ourselves as an organization, "Ok, what components of the stack are still kind of closed and proprietary places where there's an opportunity for open source?" And what's crazy to say is that if you look at [it] just sort of from the application layer with things like Node.js all the way down to the OpenBIOS project, open hardware projects, and from the operating system, networking stack, and everything in between, today, [for] much of the modern software industry, that entire stack is being driven by open source software. So that vertical view of the world has been something where we've, I think, seen some success. But we, a very long time ago, thought of the world that way and then intentionally worked with folks who might have an opportunity at various layers.

Today, we much more think about sort of how we would work with wholesale industries. So again, the energy sector is a great example of where most modern utility operators are in state run organizations. The grid operators themselves are private companies. But they don't have necessarily a ton of incentive to create proprietary software around certain aspects of that industry. And so this is an area that's just ripe for being able to use open source to get better outcomes for their customers, which are you and me and anyone who uses the electric grid.

And so those are areas where we will work with big industry stakeholders and, in the case of the energy industry, that'll impact climate change and can help improve the world. That's the final thing [that] we still continue to think about, which is if we're not having some kind of impact on important issues, then why bother? Go work for a for-profit company.

LM: Although you are a nonprofit, do you need to make money to fund events?

JZ: So the other thing I do besides what we just discussed is I'm a fundraiser. So I go around and work with different companies who depend on open source to underwrite the organization. Fortunately we provide a lot of value, whether it's through these events where people sponsor it or through our open source projects that these companies depend on. So explaining the value and getting people to help support them has not been incredibly challenging, but it's certainly not easy either.

LM: So, it's all funding and collaborations. Are there any commercial agreements or fee-for-service type of arrangements?

JZ: We get asked all the time, "can you consult with us to teach us how to leverage open source?" We're not a consulting company. We don't want to do that kind of work.

LM: You're not the only open source foundation out there. For lack of a better word, what's your unique selling proposition (USP)? I got a press release recently that said that Databricks just migrated their Delta Lake platform to the Linux Foundation. What would compel a project to come under the guidance of the Linux Foundation?

JZ: Oh, we're the largest organization of our kind. We can work with projects from large to small; we have an entire infrastructure, event, training, [and] legal governance team. We really have, by far, the most comprehensive support infrastructure around us. But having said that, there are certainly many good open source organizations, many of which we also support, whether it's financially or through working with them to cohost events or other things.

LM: Not everything in this world is powered by open source software. What's the one area or aspect of computing that bugs you, because it isn't open source?

JZ: I'd love to see more open source in the life sciences and pharmaceutical industry. I think that's an area where it would – as you have more computational challenges around introducing new drugs and so forth – help accelerate that market and make it more efficient. And that's a market we all care about. It's an industry that is obviously very conservative when it comes to intellectual property. And I'd just love to see more there, because healthcare is something I think we can all agree upon [that] is important.

LM: Any particular initiatives?

JZ: None that I could talk about right now.

LM: Fair enough. You introduced the KernelCI initiative [6] in your keynote today. What's that about?

JZ: So it's a common framework for testing in the kernel that will help to improve the way that upstream testing happens in the Linux kernel project. It will expand test coverage in a project that's critical to all of us. And essentially help us identify and remediate bugs in the kernel that often become security vulnerabilities, and so it's just in everybody's interest to do that. I'm super excited about it; I've been working on [it] for years, so I expect big things from that project. You can talk to Greg [Kroah-Hartman] about it, but I think he would admit that testing in the kernel isn't the best, in that improving that is incredibly important as the kernel is more important to all of us, and KernelCI is [a] long time coming. And good for those guys to have gotten there.

LM: What has the job taught you? How has it helped you grow as an individual?

JZ: Yeah, I mean I publicly talk about that. I tell this to everyone who considers even working at the foundation, which is the number one thing it teaches you is emotional patience. And the medium for making critiques in open source is a version control system where it's a pull request or critique. And so, often at a conference like this, I'll have someone come up to me and say, "Hey, Jim, I have a quick question for you." And I'll respond to say, "Well, is it really going to be a question?" They'll say, "Well, it's more of a comment." I am like "Is it a criticism?" and often that is the case.

But if you're patient and a good listener, I think that this is a job where you can succeed and that every year that's more reinforced, and I think as the world becomes more interconnected that people who succeed will be those who have those emotional skills to be collaborative, patient, understanding, [and] empathetic, and we try and teach everybody at our organization to behave that way. ■■■

Info

[1] Open Source Summit Europe 2019: *https://events19.linuxfoundation.org/events/open-source-summit-europe-2019/*

[2] KubeCon 2019: *https://events19.linuxfoundation.org/events/kubecon-cloudnativecon-north-america-2019/*

[3] Academy Software Foundation: *https://www.aswf.io/*

[4] LF Energy project: *https://www.lfenergy.org/*

[5] Hyperledger: *https://www.hyperledger.org/*

[6] KernelCI: *https://kernelci.org/*

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