The Growth of Linux—How the Open Source Operating System is Taking Over

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by SentinelOne

The Growth of Linux—How the Open Source Operating System Is Taking Over Penguins

Open source software was once relegated to hobbyists and tech-enthusiasts who enjoyed tinkering with code, but we're entering an era of open source professionalization.

Businesses of all sizes are investing in open source projects and, to support these investments, 65% of hiring managers say they are expanding open source hiring in multiple parts of their companies—beyond just the IT and engineering aspects.

While hiring open source professionals is increasingly important, the rise of open source software is critical to the new Internet of Things and connected devices reality. You may not realize it, but the growth of Linux since the early 1990s has dictated the development of open source in the business and consumer worlds.

A Brief History of the Linux Operating System

Linus Torvalds started Linux as a hobby in 1991 with one main idea—to build a free operating system as an alternative to Windows for both commercial and personal purposes. However, Torvalds' project wasn't the first instance of a customizable operating system.

Unix was built by AT&T in 1969 and became the standard operating system for commercial machines. The problem was that tech-enthusiasts wanted something they could run and customize on their personal computers and Unix was only suited for high-end machines.

When Richard Stallman nearly finished his Unix clone, GNU, in 1991, the only missing piece was the kernel—the core that could drive the operating system. This is when Torvalds created the Linux kernel and it was incorporated into the GNU operating system to kickstart the age of Linux open source computing.

The Rise of Linux—From Web Servers to Transcendent Connectivity

Microsoft's Windows operating system may dominate global computing, but if you look at website operating systems alone, the story is a bit different.

W3Techs research found that nearly 67% of all websites use the Linux operating system in comparison to Window's 33%. Since the kernel's creation, the ability to customize the operating system to specific business needs has proven attractive to even the largest organizations—Facebook, Google, Wikipedia, and more.

The Growth of Linux—How the Open Source Operating System Is Taking Over Laptops

Even Microsoft has acknowledged the advantages of Linux, enabling Microsoft Azure clients to run Linux on their cloud instances. Since Microsoft made this change in 2012, Linux has come to run on 33% of Azure instances and Microsoft itself even uses Linux for some of the backend Azure networking.

Although Linux dominates the web server space, the open source operating system's advantages transcend this limited use case to drive the era of IoT.

When Google used the Linux kernel in the Android mobile operating system in 2008, the world saw that open source software could be incorporated into consumer devices effectively. Now, Android has captured 84% of the mobile operating system market and Linux is a fundamental driver of its success.

The success of Linux in Android has sparked its use in many consumer-facing IoT devices—smart TVs, smart thermostats, Amazon's Kindle devices, self-driving cars, and more. Without many people even knowing, Linux has taken over the connected world of devices.

Linux's Greatest Strength Could Be Its Greatest Weakness

Torvalds' original vision in 1991 persists today—to offer a free, customizable operating system. The open source operating system enables a level of collaboration and customization that Windows may never match; but being open source also introduces a much larger attack surface.

The vulnerabilities of open source operating systems—and Linux in particular—must be addressed as a Linux-based IoT comes to fruition.

Stay tuned for the second blog in our Linux series in which we'll discuss the prevalence of Linux attacks and the vulnerabilities that make them possible.

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