Over the past years, systemd gained a number of components for building Linux-based operating systems. While these components individually have been adopted by many distributions and products for specific purposes, we did not publicly communicate a broader vision of how they should all fit together in the long run. In this blog story I hope to provide that from my personal perspective, i.e. explain how I personally would build an OS and where I personally think OS development with Linux should go.

I figure this is going to be a longer blog story, but I hope it will be equally enlightening. Please understand though that everything I write about OS design here is my personal opinion, and not one of my employer.

For the last 12 years or so I have been working on Linux OS development, mostly around systemd. In all those years I had a lot of time thinking about the Linux platform, and specifically traditional Linux distributions and their strengths and weaknesses. I have seen many attempts to reinvent Linux distributions in one way or another, to varying success. After all this most would probably agree that the traditional RPM or dpkg/apt-based distributions still define the Linux platform more than others (for 25+ years now), even though some Linux-based OSes (Android, ChromeOS) probably outnumber the installations overall.

And over all those 12 years I kept wondering, how would I actually build an OS for a system or for an appliance, and what are the components necessary to achieve that. And most importantly, how can we make these components generic enough so that they are useful in generic/traditional distributions too, and in other use cases than my own.

[Linux]
[Red Hat]
Links:
[3] https://0pointer.net/blog/fitting-everything-together.html