

Forum:[Hack Forums](#)

Thread: [\[Rust\] Project Development Thread OSDev + Userland](#)

CanadianBear - August 24, 2024, 6:38 am

Hi,

Currently porting my entire codebase and ecosystem over to Rust (from C).

I will start by making a new Github account once I'm home with a few repos.

I'll use OpenBSD and FreeBSD as an inspiration, but won't have ports tho, only what's made for that OS specifically.

Installer

Bootloader

Kernel

Drivers

Userland

It's main goal will be for servers and secure environments, I'll implement something akin to ZFS raidz along with PQC, FDE and the whole system will be built around a database concept.

Considering a blockchain approach to the DB to make a distributed, decentralized system, but at the same time that part isn't set in stone yet. If I go that route everything would have to have it's own key. User has a password derived key, os would have another encryption key for stuff in RAM, each CPU core/VM will have it's own encryption key, each drivers, each software, each users.

Still in the planification phase, but long term I aim for it to become an alternative to debian, qubesOS, Tails and others.

I want to add the feature at boot, before decryption, to set the DB and disk as read only and just have the system modifications in RAM.

I know it will be a Huge undertaking, I am aware it is a multi-years project, but I am also aware that I will be doing it anyway for myself as I have been thinking about it for years and am at the stage where not doing so is no longer viable for me, so might as well share with the community and see if people are interested and want to contribute/share ideas.

For the moment I'm thinking of web, dns, dhcp, ftp, sftp, imap, pop3, smtp, ftps, text editor, compiler, assembler, linker, standard library, debugger, kernel debugger, hypervisor (still unsure if I'll go with type 1 or type 2), file browser, ssh, git/fossil like svn, wiki, blog, forum, SPA SDK, services to manage my finances, life, schedule, meals, cleaning and shits.

Feel free to comment, fork, whatever, it'll be BSD licensed. Not sure yet if 2-clause, 3 clauses, modified or whatever, will decide this week.

Klonopin - August 25, 2024, 5:05 am

Looking forward to seeing more updates from this project, keep up with the work.

CanadianBear - August 27, 2024, 7:32 am

Just to clarify, made the thread from my phone, still redoing my computers setup which is why it's taking a little longer than planned to setup, but the project won't die anytime soon, I'll update once I've fixed the issues preventing me from using my computers to work. Should be before next monday.