Note 12_11_22

(17:21)
I am installing Ubuntu to a virtual machine to act as a new test. Ubuntu runs on my workstation which is the only device that I have managed to get Rust Linux working so far.

(17:39)
I'm going to use the GitHub repo of the Linux kernel so that I can simply git pull and update rather than constantly download new tar files etc

(17:43)
For this versions rust install, I decided to customise my install with the following options;

default host triple: x86_64-unknown-linux-gnu
default toolchain: 1.62.0
profile: complete
modify PATH variable: Yes

(18:15)
It seems that Rust isn't being built within Make?

(19:38)
Trying to build the kernel leads to errors. I have the same problems as in the old machine. I'll have to continue this tomorrow.

(20:45)
So I just decided to come back. I'm trying to figure out exactly whats going wrong and what's causing issues.

(20:53)
So I found in basically all these test instances that the rust option is hidden in make menuconfig. This documentation

states "The option is only shown if a suitable Rust toolchain is found (see above), as long as the other requirements are met. In turn, this will make visible the rest of options that depend on Rust."

I can at least confirm that rustc works on this machine.

(20:59)
The option issue is obviously due to the fact that I'm not yet running 6.1

(21:22)
I've been trying to compile a 32 bit kernel on a 64 bit machine, I've downloaded and am currently building 6.1-rc4 from kernel.org to see if it resolves issues. I'm also making sure to build as the root user.

(21:34)
It seems no matter what distro I try to use, I constantly run into issues this is really frustrating.

(21:36)
I moved back to working from the GitHub and realised I hadn't checked 64-bit kernel. I am currently re-building and hopefully this will provide better results.

(21:39)
Still threw an error. I hate this.

(22:04)
So now for some reason the Rust support option is showing, i'll need to figure out the boot error and I think - touch wood - everything might be smooth sailing.

Rust-analyzer at least works.

(22:11)
I think now I have the opposite damn issue with this test! Rust works but I don't think this kernel will actually boot goddamnit.

Note for compiling on Pi; Just get the kernel working then rebuild it with the stuff installed.

I'll try to get this working before I move to the pi.

(22:34)
So I'm going to start again, configure the 6.1 kernel and *then* configure rust. I'm also going to make sure not to totally screw my config.

(23:42)
https://askubuntu.com/questions/1329538/compiling-the-kernel-5-11-11

(00:49) (13/11/22)
I continue to let the kernel build. This is compiling a lot more and will hopefully give better results.

(01:13)
Kernel successfully compiled! Now moving onto install Rust and recompiling.

(01:53)
I should remember to run `make defconfig` which seems to allow the option of rust support! Now to quickly test and then run off to bed.

Rust-analyzer works
Rust doc works
Rusttest, I assume, works

Well first, I'll rebuild the kernel with Rust and can test code tomorrow.

(02:37)
Kernel has been recompiled, samples loaded but I can't seem to get a test driver running. A task for tommorow. I'm at least happy to have finally solved this problem.

(02:52)
I'd say everything works and I just need to figure out how make is used to build the rust code into .ko files. Hopefully documentation will pop up soon.

https://lwn.net/Articles/910762/
https://git.kernel.org/pub/scm/linux/kernel/git/torvalds/linux.git/tree/Documentation/rust/quick-start.rst