

PiBox - Action Item #231

kernel config cleanup

14 Oct 2013 14:16 - Hammel

Status:	Closed	Start date:	14 Oct 2013
Priority:	Immediate	Due date:	
Assignee:	Hammel	% Done:	100%
Category:	03 - Linux Kernel	Estimated time:	0.00 hour
Target version:	1.1.0 - Upgrades		
Severity:	04 - Low		
Description			
To improve boot time, the kernel config should be examined for which drivers could be made modules and loaded at boot time. Module loading could be done by specific init scripts as needed or by a specialized init process that parallelizes the init scripts (without using scripts to reduce fork/exec overhead).			
Related issues:			
Related to PiBox - Action Item # 472: Boot time speedups		In Progress	25 Nov 2015

Associated revisions

Revision c8416928 - 11 Mar 2014 18:33 - Hammel

RM #291: Changed local kernel config name so it doesn't include git id.

RM #287: Disabled NFS in the kernel and rootfs.

RM #231: Disabled all unused filesystems.

History

#1 - 18 Oct 2013 09:14 - Hammel

- *Category set to 03 - Linux Kernel*

- *Assignee set to Hammel*

- *Target version set to 2.0 - Harkonnen*

#2 - 04 Jan 2014 18:13 - Hammel

When I get around to this I should have a method of building just the Media Server kernel since this would be a stripped down version of the PiBox Development Platform, which should have nearly everything in it.

#3 - 30 Mar 2014 21:19 - Hammel

- *Status changed from New to In Progress*

- *% Done changed from 0 to 10*

Looking through dmesg to see boot times I found the following things:

1. A bunch of eth drivers are compiled in. Only smsc95xx needs to be enabled and even that could be a loadable module.
2. bcm2708_spi takes 3.5 seconds to load
3. sda1 (ext4) takes 9 seconds to load
4. wlan0 takes 8 seconds to load
5. X (and the fbft) takes 17 seconds to load

#4 - 03 Mar 2019 11:35 - Hammel

- *Priority changed from Normal to Immediate*

- Target version changed from 2.0 - Harkonnen to 1.1.0 - Upgrades
- Severity changed from 03 - Medium to 04 - Low

Bumping this to 1.1.0 release because the kernel config has so much cruft in it that PiBox just doesn't need, like all those eth drivers. This is because I switched, a while back, to using the defconfig for the Pis. Now I need to switch back to a trimmed down kernel so save both disk and memory space.

#5 - 06 Feb 2020 15:22 - Hammel

- Status changed from In Progress to Closed
- % Done changed from 10 to 100

There is a breakdown of the [required config options available](#). This might be a good stripped down version to start with, just to see if it boots.

I looked through the config file for what drivers are compiled in (=y). There are a few areas I could turn off, but a few things, like the eth drivers, may not have any affect according to kconfig descriptions. Also, the kernel is 5M, which is not tiny but it's not bad given all it has to do for something like a media system.

So I'm going to leave the config alone for how. It's not really a problem and the boot time issues are external to the config, at least as of now.

Closing issue.