



Work in progress Direct Integration documentation

[https://docs.slackware.com/slackwarearm:inst\\_sa64\\_lx2160a\\_honeycomb](https://docs.slackware.com/slackwarearm:inst_sa64_lx2160a_honeycomb)

## To Do

- Flashing tool - look at creating a microroot function within the sdcards.build that processes the os initrd

### Installer post install scripts

Fix up GRUB config tool - see notes in these two scripts.

```
root@dastardly:~/ac/source/installer/arm/hwm-
configure/platform/aarch64/installer/helper.scr# ls -la
total 32
drwxr-xr-x 2 root root 4096 Sep 29 12:03 ./
drwxr-xr-x 4 root root 4096 Mar 24 2022 ../
-rw-r--r-- 1 1001 users 5274 Sep 29 12:01 grub-configure-honeycomb
-rw-r--r-- 1 1001 users 4165 Sep 29 12:04 grub-configure-vm
```

### Installer image todo

```
/platform/aarch64/bootware/src/platform/aarch64/lx2160acex7/sdcards.build-
functions
```

Potentially name the image files 'usb' not 'sd' in function:

```
#hwm_sdimage_installtotree () {
```

## Slackware Installer image SD card layout

partition point	used for	filesystem	FS label	installer mount
1	EFI boot?	fat32	SLKins_efi	? shouldn't need
one?	* Requires GPT partition table			
2	/boot/GRUB's config that loads Slackware Installer.	ext4	SLKins_boot	? ""
	/assets/firmware/lxwhatever			

Add in the firmware here which can be flashed from within the installer  
using a post install script.  
It diverges from the rk3399, so let's hold the idea for now, but it's probably along the right lines.

## Installation flow

1. User DD's sd card SPI flash image:  
Flashes EFI firmware to SPI flash.
2. User dd's Slackware installer image to SD card.
3. Boots Honeycomb from SD card, boots Slackware installer.
4. User creates EFI partition , swap and OS and whatever partitions.
5. Installs Slackware to SSD on SATA
6. Reboots, removes SD card.
7. User makes honeycomb boot from SATA to boot OS.
8. First boot will find the SATA drive at SLKroot
9. and the swap at SLKswap0
10. and /boot/efi at SLKefi

### SD Notes:

- \* SLKins\_efi and SLKins\_boot are not relevant at this point.
- \* The SD card can be removed and the system can run without it.

## Notes

### SATA Drive notes:

- \* The /boot/efi partition needs to be labeled as SLKefi
- \* Rootdisk / needs to be labeled SLKroot
- \* If it exists, the swap should be named SLKswap0
- \* Grub finds the boot directory on root disk
- \* Grub boots the system ``

partition table of root disk within installer:

```
sdc
|-sdc1
299.2M      0% /mnt/boot/efi
|-sdc2      swap              1      SLKswap0      6d31881b-54b1-4ff2-
bac7-8602463897d6      [SWAP]
`-sdc3      ext4              1.0     SLKroot      02d8318a-7a96-4db4-
a104-223f0334e49b      83.9G      15% /mnt
```

partition table of boot disk (installer) withn installation:

mmcblk0

Partition	File System	Label	UUID
-mmcblk0p1	vfat	FAT32	SLKins_efi B633-E0ED
`-mmcblk0p2	ext4	1.0	SLKins_boot 18a1e569-77c1-40ad-85a3-cf425fe7c4ad

Final partitioning:

root@slackware:~# lsblk

NAME	MAJ:MIN	RM	SIZE	RO	TYPE	MOUNTPOINTS
sda	8:0	0	447.1G	0	disk	
`-sda1	8:1	0	447.1G	0	part	
`-md0	9:0	0	447.1G	0	raid1	
`-md0p1	259:0	0	447.1G	0	part	/data
sdb	8:16	0	447.1G	0	disk	
`-sdb1	8:17	0	447.1G	0	part	
`-md0	9:0	0	447.1G	0	raid1	
`-md0p1	259:0	0	447.1G	0	part	/data
sdC	8:32	0	111.8G	0	disk	
-sdC1	8:33	0	200M	0	part	/mnt/boot/efi
-sdC2	8:34	0	4G	0	part	[SWAP]
`-sdC3	8:35	0	107.6G	0	part	/mnt
mtddb0	31:0	0	64M	0	disk	
mmcblk0	179:0	0	14.8G	0	disk	
-mmcblk0p1	179:1	0	190M	0	part	
`-mmcblk0p2	179:2	0	3.5G	0	part	
mmcblk1	179:32	0	59.2G	0	disk	
mmcblk1boot0	179:64	0	4M	1	disk	
mmcblk1boot1	179:96	0	4M	1	disk	

/boot

root@slackware:~# ls /mnt/boot

```
Image-armv8@ Image-armv8-6.1.37 README-kernels.txt README.initrd@
System.map-armv8@ System.map-armv8-6.1.37 config-armv8-6.1.37 dtb@
dtb-6.1.37/ efi/ grub/ initrd-armv8@ initrd-armv8-6.1.37 local/
platform/
```

```
root@slackware:~# ls /boot/efi/EFI/slackware-15.0+/grubaa64.efi
/boot/efi/EFI/slackware-15.0+/grubaa64.efi*
```

Notes:

\* /boot/extlinux/ should not exist

## Fan

Fan control and info: <https://community.solid-run.com/t/fan-control/205/3>

## UEFI Firmware Installer to SPI Flash

<https://community.solid-run.com/t/anyone-tried-flashing-uefi-f-w-to-spi/185>

```
sf probe
sf erase 0 0x40000000
load mmc 0:1 0x900000000
lx2160acex7_2000_700_2400_8_5_2_flexspi_nor_ee5c233.img
sf write 0x90000000 0 0x800000
```

## SFP+ Network Ports

- Add to the restool package the following udev rule: [fsl\\_mc\\_bus.rules](#)
- Can add it to /etc/udev/rules.d/ to test with reboot.
- Link to Fedora restool source <https://src.fedoraproject.org/rpms/restool>
- The latest is restool is version 2.4.0 but 2.3.0 is working as it should
- Decide what package will install this rule. Maybe it can fit itself in one of the integration scripts?

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