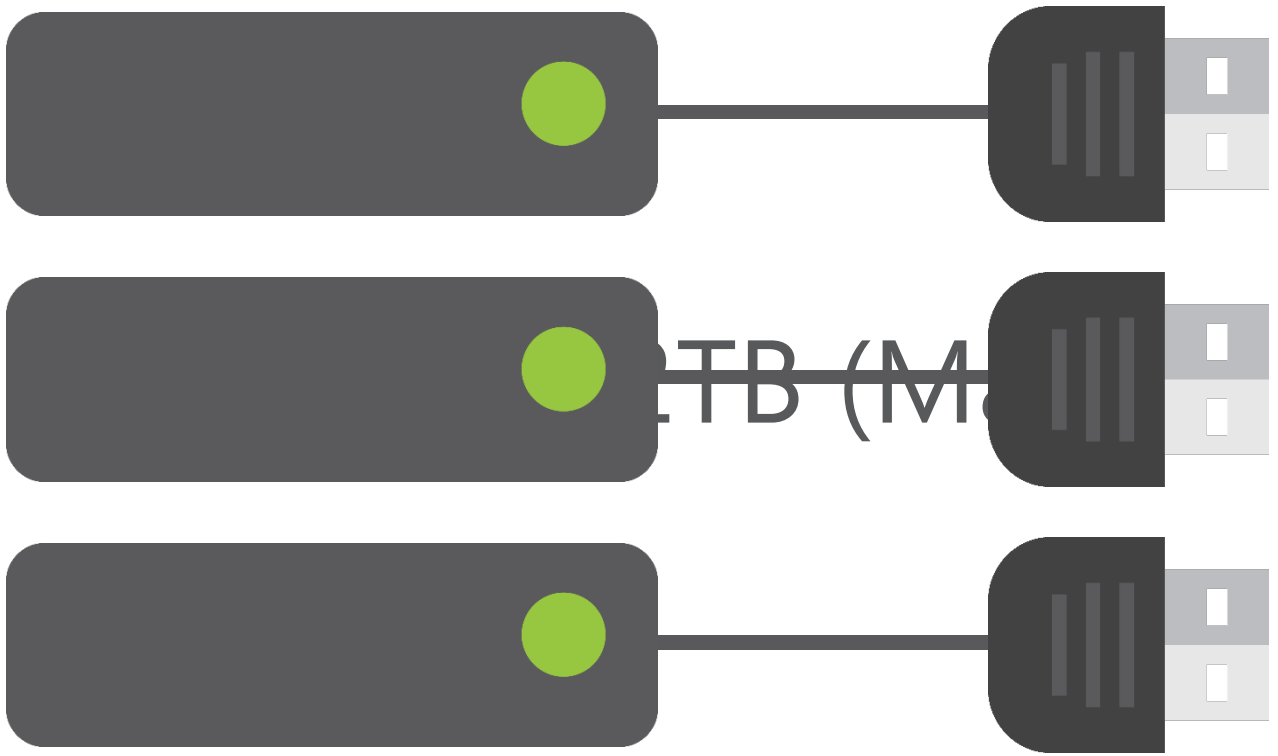
Updated
for Raspbian
Stretch

Adding External Storage

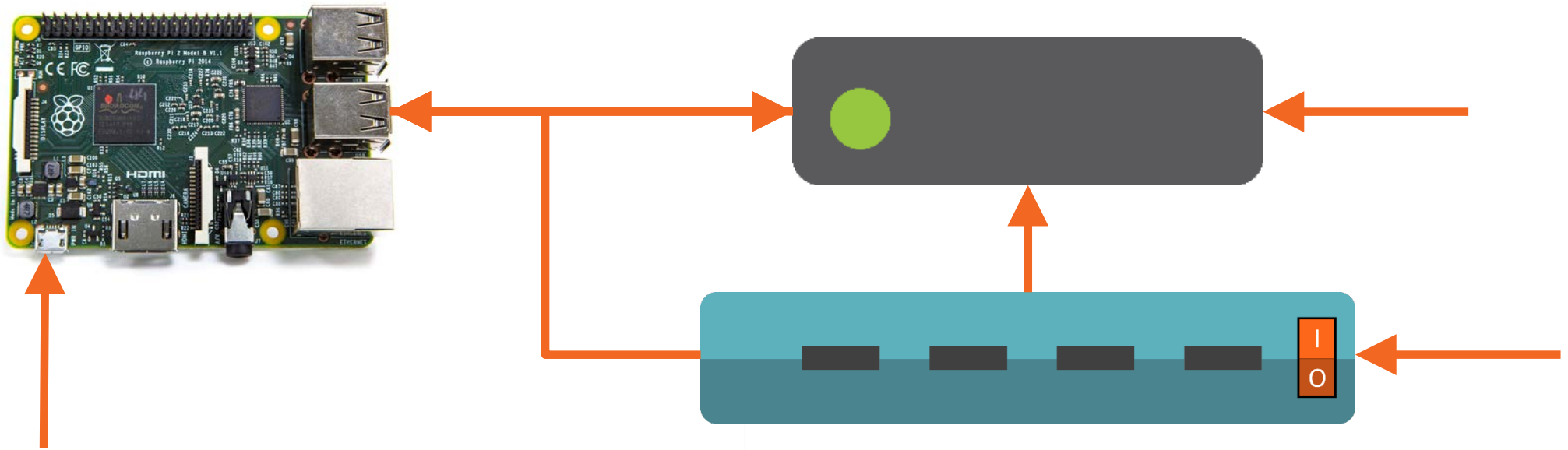
Mel Grubb

@melgrubb | melgrubb.wordpress.com

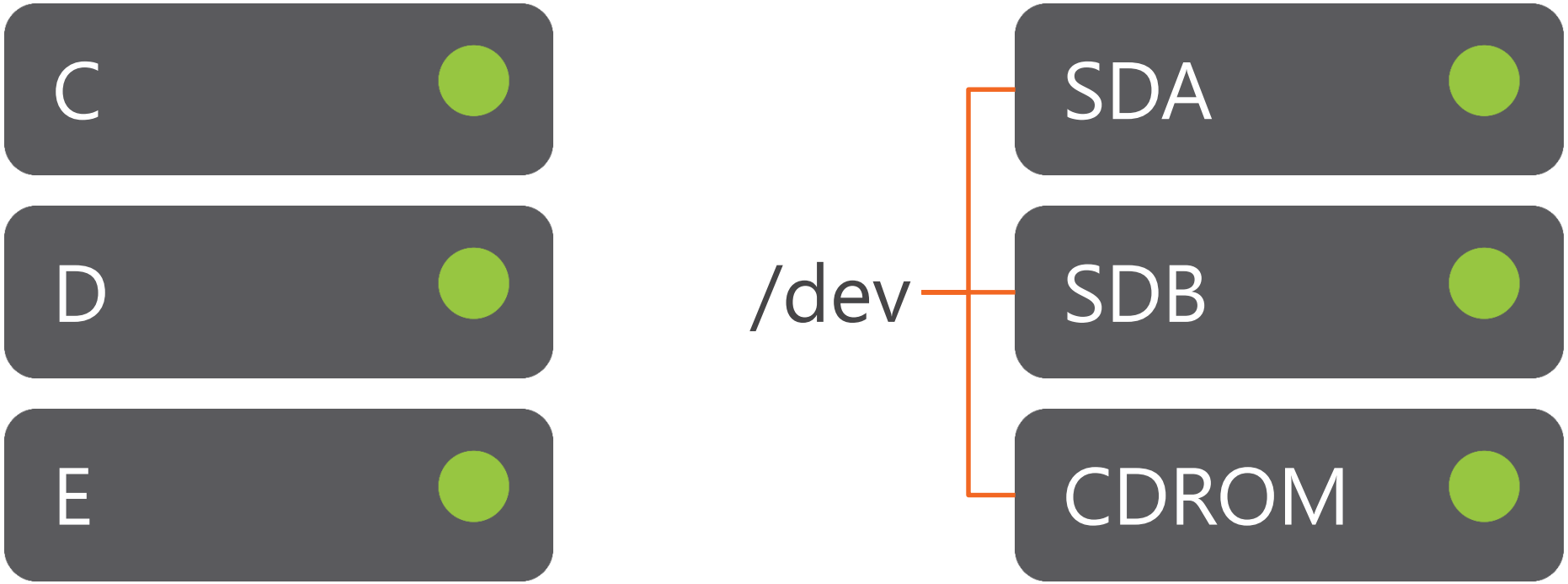
Mass Storage



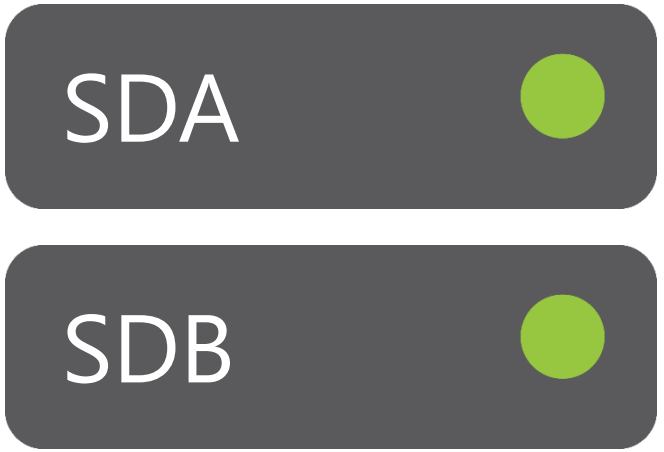
Powering the Hard Drive(s)



Windows vs. Linux Filesystems



Linux Device Names

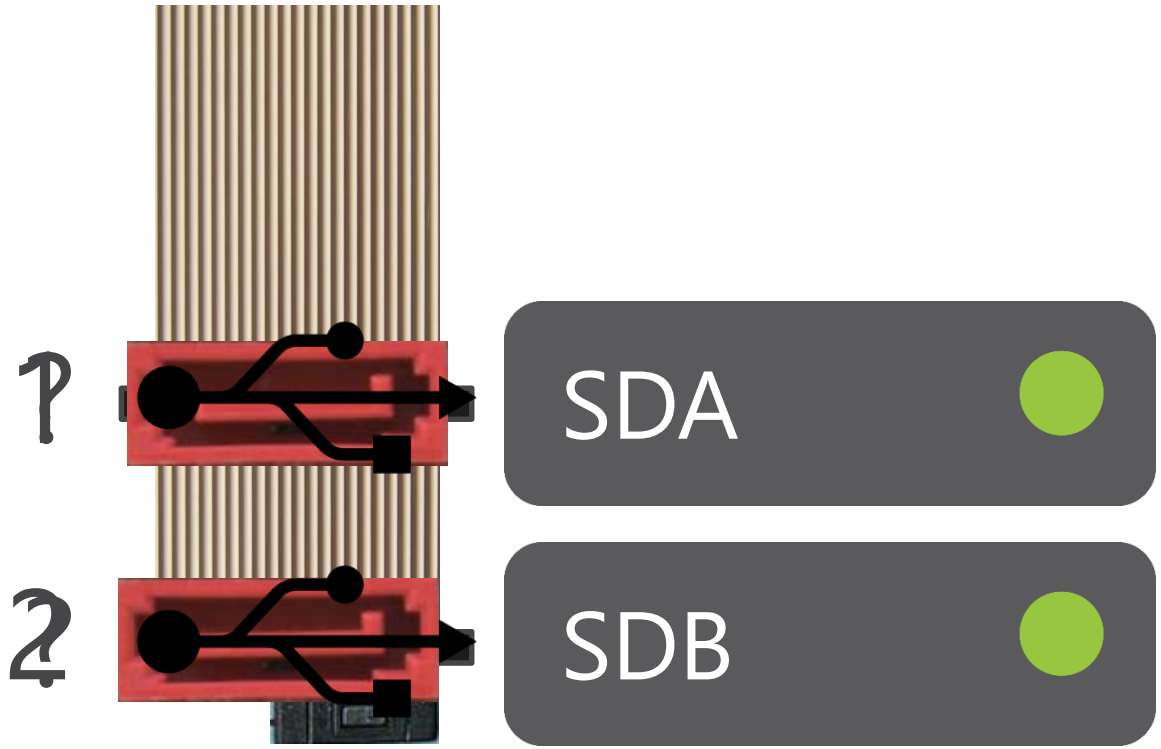


SCSI Device "A"

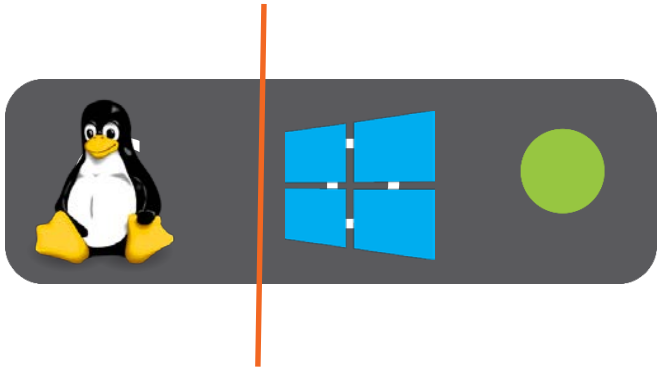
SCSI Device "B"

A History Lesson

Linux Device Names



Hard Drive Partitions



Start	End
0%	100%
34%	100%

MBR vs. GPT

Master Boot Record

- Early 80s
- Widely supported
- 2TB Limit

GUID Partition Table

- Late 90s
- Mostly supported
- 9ZB Limit
- Uses GUIDs to identify partitions

Choosing a Filesystem

NTFS

- More portable
- Raspbian requires additional drivers
- Drivers = CPU overhead

ext4

- Native to the Pi
- Windows requires additional drivers
- Less overhead

Demo: Partitioning the Drive

Identifying the hard drive

Listing a drive's partitions

Creating a new GUID partition table

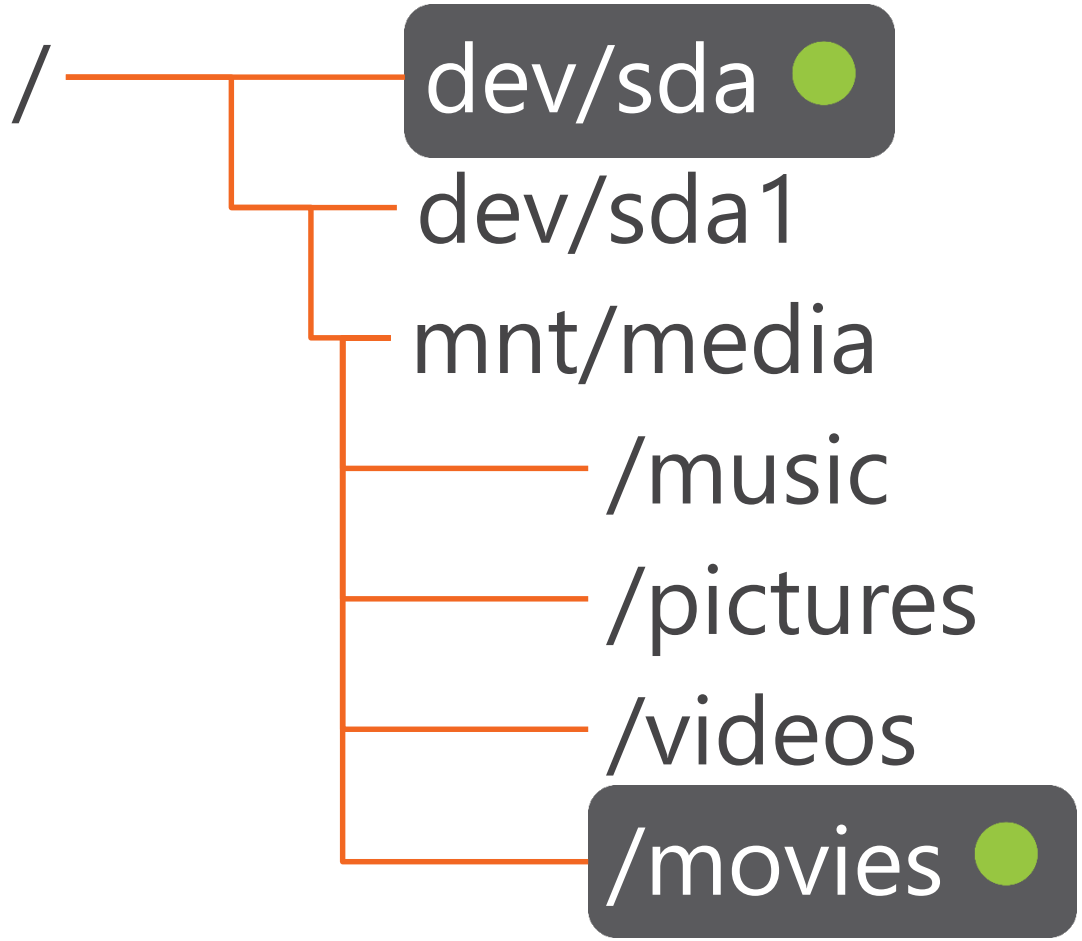
Creating new partitions

Demo: Formatting the Data Partition

Installing NTFS support

Formatting the drive for NTFS

Mounting a Device



Demo: Manually Mounting Devices

View existing permissions

Create placeholder directories

View the pi user's groups

Mount the data partition

Demo: Automatically Mounting Devices

View existing permissions

Create placeholder directories

View the pi user's groups

Mount the data partition

Make A Backup

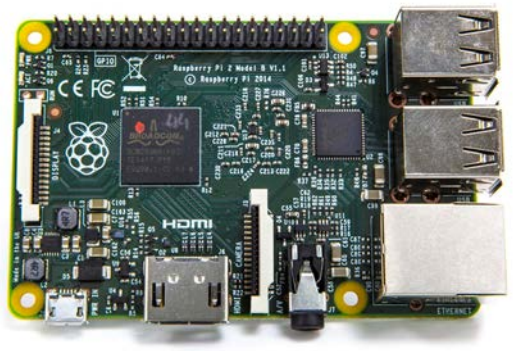
Windows

Win32DiskImager

Mac / Linux

sudo dd if=/dev/diskn of=~/pi.img bs=1m

Summary



- Learned about unified file systems
- Attached an external hard drive
- Partitioned the hard drive
- Formatted the data partition
- Mounted the data partition

What's Next?

Setting up network file shares