



EOS AlmaLinux 9 Migration

Ioanna Vrachnaki

15.03.2024

How it started

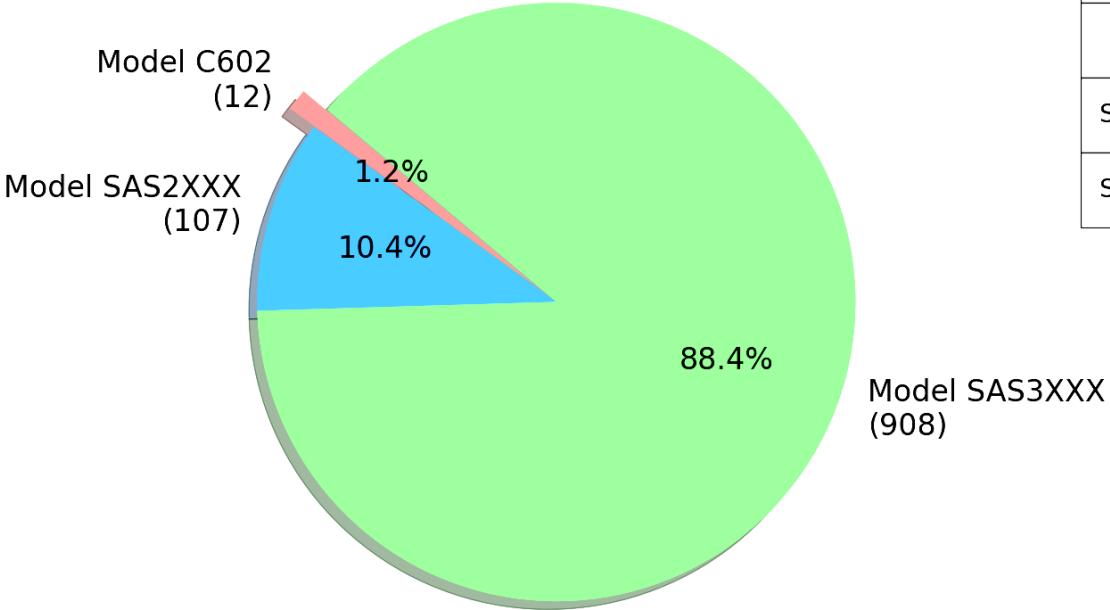
“Updates and releases of CentOS Linux® 7 will be discontinued on June 30, 2024,, ~ Red Hat

- How many CentOS 7?
- RHEL 9 or AlmaLinux 9 ?
- Is it possible to upgrade all of them?
- Is there a difference based on the Hardware Model?
- How many Hardware Models?

Hardware Models Analysis

- **3 types of drivers**
- We can go to AlmaLinux 9
- Maybe we can go to AlmaLinux 9
- We can't go to AlmaLinux 9

Model Types Statistics



Driver Type	Years
C602	2013-2014
SAS2XXX	2013-2016
SAS3XXX	2017-2020

Hardware Models Analysis

- GREEN

- SYS-2029TP-HTR
- S2600BPB, S2600WTTR, X10DRi
- S2600KPR
- AS -2124BT-HNTR
- SOLAR 820 X6
- Stinger
- S
- QuantaPlex T41S-2U, EPGSVR
- bluechip SERVERline individual

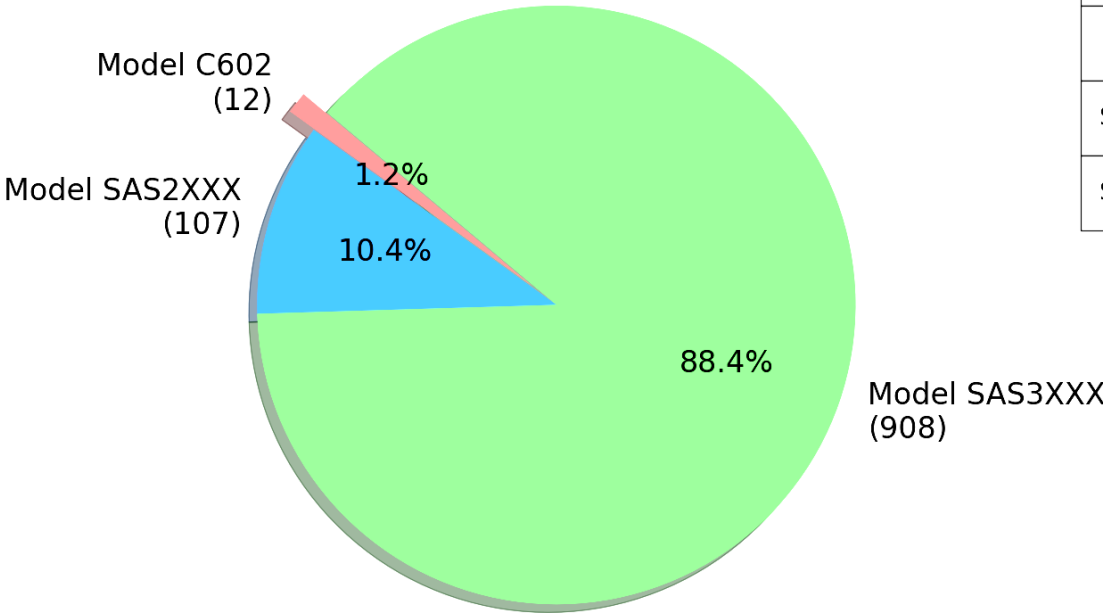
- BLUE

- S810-X52L

- RED

- S2600JF

Model Types Statistics



Driver Type	Years
C602	2013-2014
SAS2XXX	2013-2016
SAS3XXX	2017-2020

Challenges faced (and still facing)

- **Keeping the data intact**
 - All the disks were draining at the same time
 - Filesystem status could be **operror** or **down**
- **Network issues**
- **AlmaLinux 9.2 issues**
- **Puppet wasn't running**
- **Disks couldn't mount properly**
- **BIOS/EFI boot order was incorrect**
- **Installation taking 8+ hours (even 24h)**
- **No disks being available for the boot partition**
- **Not booting from the correct disk**
- **Race conditions due to slowness**
- **Installation script being constantly killed**
- **Watchdog was rebooting a machine every 6 minutes**

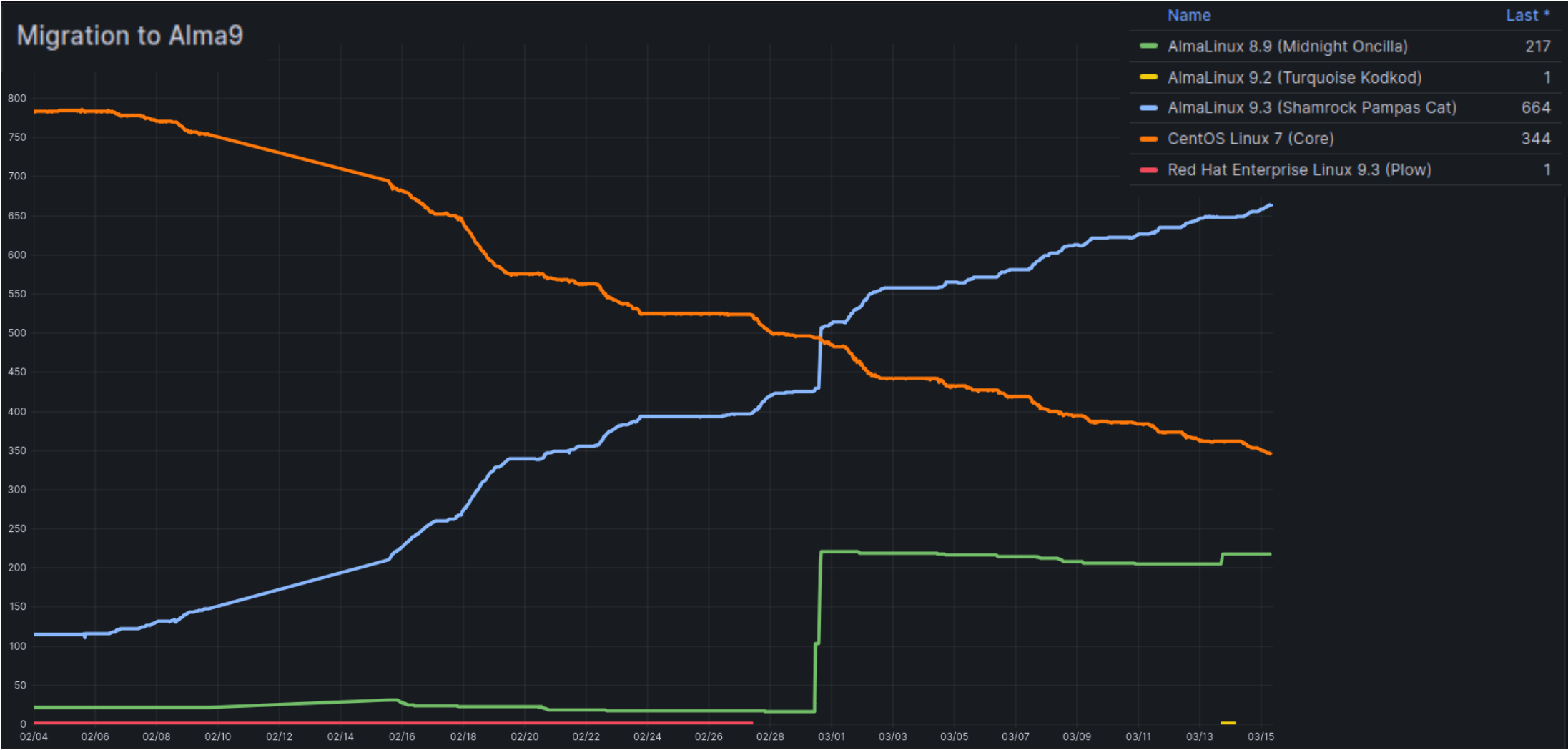
Challenges faced (and still facing)

- **Keeping the data intact**
 - All the disks were draining at the same time
 - Filesystem status could be **operror** or **down**
- **Network issues**
- **AlmaLinux 9.2 issues**
- **Puppet wasn't running**
- **Disks couldn't mount properly**
- **BIOS/EFI boot order was incorrect**
- **Installation taking 8+ hours (even 24h)**
- **No disks being available for the boot partition**
- **Not booting from the correct disk**
- **Race conditions due to slowness**
- **Installation script being constantly killed**
- **Watchdog was rebooting a machine every 6 minutes**

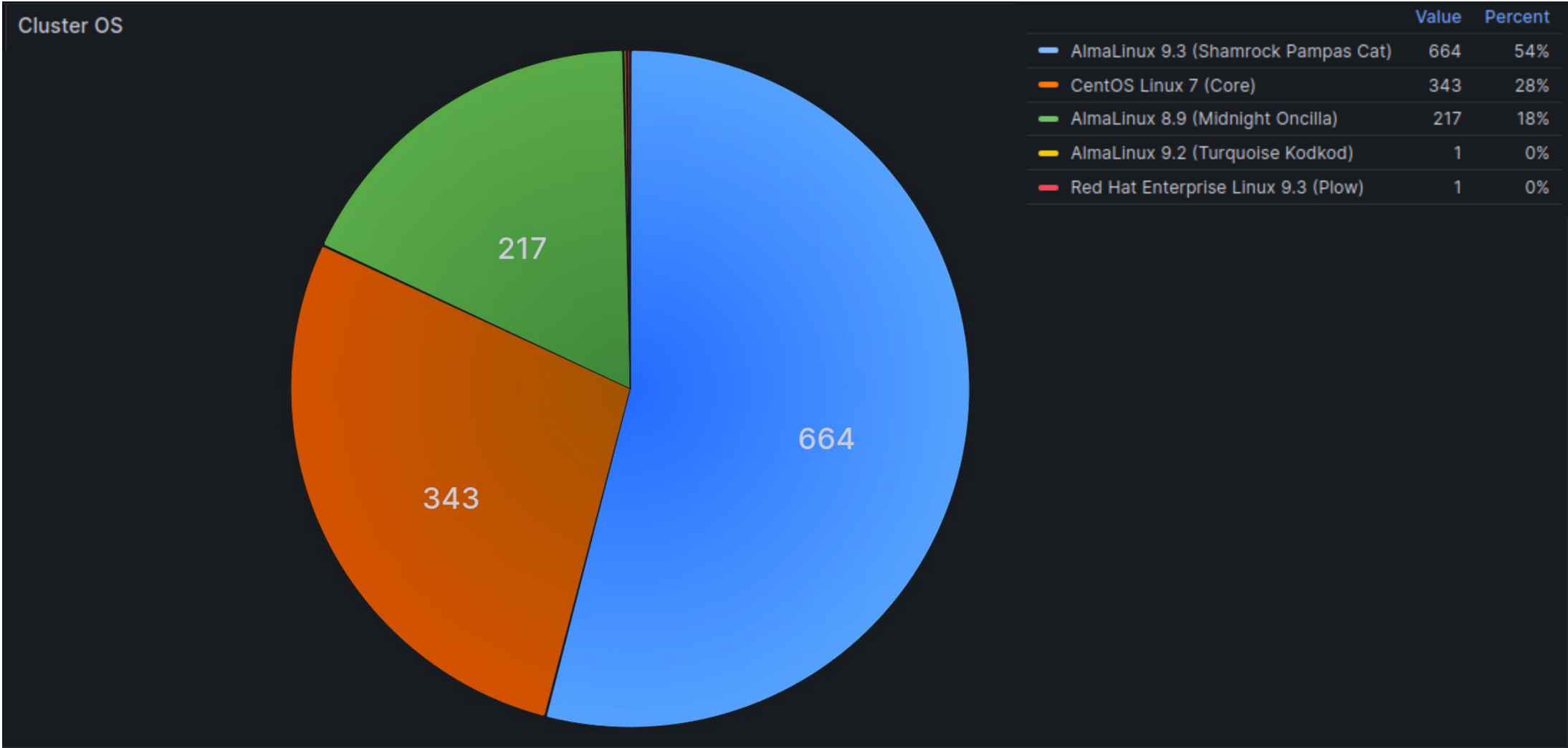
SOLUTIONS!!

- **Putting the filesystems offline before starting**
- **Rebooting the filesystems**
- **Retry**
- **AlmaLinux 9.3**
- **Manual inspection/intervention**
- **Manual inspection/intervention**
- **Manual inspection/intervention** unless it's EFI
- **Patience**
- **Creating a new partition table per problem**
- **Manual inspection/intervention**
- **Patience + Reboot the filesystems**
- **Restart the script, but check for offline machines**
- **Manual inspection/intervention**

Evolution



Evolution



Installation Pace

	Fastest	Average	Slowest
machine/hour	1.5	0.4	0.04
machine/day	36	9.75	1
machine/month	1080	292.5	30

Best so far: 1 machine in 40 minutes

Worst so far: 1 machine in 1 day

Prediction: 105.5 days to complete the machines (28th of June)



Thank you for your attention!

