



OCP 4.6 High Partition Saving

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New Install Image

- ▶ 4.6 RHCOS now ships with the root fs and the initrd images separate.
 - ▶ In some pxe environments the size of the rootfs caused a slow down.
 - ▶ You can combine the installinitrd and the install root fs, but still will be slow
 - ▶ Or you can add:
 - ▶ coreos.live.rootfs_url=http://tftp.gw.lo/rhcosinstall-rootfs.img
 - ▶ .sig file needed or insecure flag needed
 - ▶ coreos.inst.insecure=yes

Multi Images for PXE Boot

```
root@GWSYN:/volume1/tftp/pixelinux.cfg# cat 01-00-50-56-1f-25-25
default coreos
prompt 0
timeout 1

label coreos
    kernel rhcosinstall.vmlinuz
        append console=ttyS0,115200n8 ip=ens192:dhcp rd.neednet=1 initrd=rhcosinstall-
initramfs.img coreos.live.rootfs_url=http://tftp.gw.lo/rhcosinstall-rootfs.img
coreos.inst.insecure=yes coreos.inst=yes coreos.inst.install_dev=sda
coreos.inst.image_url=http://tftp.gw.lo/rhcos-bios.raw.gz
coreos.inst.ignition_url=http://tftp.gw.lo/bootstrap.ign xdata=http://tftp.gw.lo/gs-node.json
ignition.config.url=http://tftp.gw.lo/create-datastore.ign create-datastore
ignition.platform.id=metal ignition.firstboot coreos.inst.save_partindex=5-
```

Argument Walk thru of pxeboot

- ▶ No signature file used – then need coreos.inst.insecure=yes
- ▶ There is now a initrd, and a root fs in 4.6:
 - ▶ initrd=rhcosinstall-initramfs.img
 - ▶ coreos.live.rootfs_url=http://tftp.gw.lo/rhcosinstall-rootfs.img
 - ▶ Rootfs is loaded using the rhcos-install live image
- ▶ 2 Ignition Files Now – Install Live Image Ignition and Target System Ignition
 - ▶ ignition.config.url=http://tftp.gw.lo/create-datastore.ign create-datastore
- ▶ ignition.platform.id=metal –Required on bare metal, and also speeds things up

Ignition At Install Time

- ▶ 4.6 now uses a Live RHCOS image
- ▶ ignition.firstboot – trigger the run of ignition at install time
- ▶ Uses: ignition.config.url= as install time ignition
- ▶ Uses of Ignition at install time (Actual Beta Customer Use Case)
 - ▶ Adding data partition if it does not exist
 - ▶ <https://gist.github.com/bgilbert/f5a3359b2e2e53d008876798837c933c>
 - ▶ Customer Specific perm system data:
 - ▶ By putting a reference in the install time ignition a file may be added to the resulting system. Beta Customer used it to pass data from their config management system to each physical node. (Originally this was done separately in classic installer)

Timing

- ▶ Expected Time of boot to shorten, still over 100+ seconds, need to explore why. (Change nic may result in this getting shorter.)
- ▶ Tested time: 95 seconds for download of root partition

Using Install Time Ignition with Live Image

- ▶ New Installer is based on a Live RHCOS Image
- ▶ Can use ignition twice
 - ▶ Once in install time
 - ▶ Once in first boot of Installed image
- ▶ Example Provided and Should be documented is:
 - ▶ <https://gist.github.com/glennewest/f764128cdf7331fa7e79ff2a187412e4>

Test Case – Install on clean disk

- ▶ Ran a PXE Booted clean install – (ie empty disk)
- ▶ Saw ignition kick off and run provided script
 - ▶ To debug – Turn off the reboot at end of install

▶ Result:

```
[[root@bootstrap-0 core]# sfdisk -l /dev/sda
Disk /dev/sda: 160 GiB, 171798691840 bytes, 335544320 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disklabel type: gpt
Disk identifier: AEC4D53B-ED9A-4DBB-B7B4-960B56D113A2

      Device        Start        End    Sectors   Size Type
/dev/sda1          2048     788479    786432   384M Linux filesystem
/dev/sda2       788480     1048575   260096   127M EFI System
/dev/sda3      1048576     1050623       2048      1M BIOS boot
/dev/sda4      1050624    11587583   10536960      5G Linux filesystem
/dev/sda5    11587584  335544286  323956703 154.5G Linux filesystem
[root@bootstrap-0 core]#
```

Test Case – Verify partition retention

- ▶ Delete MBR and all partitions:

- ▶ Script:

```
[root@bootstrap-0 mnt]# cat wipeboot.sh
dd if=/dev/zero of=/dev/sda bs=446 count=1
sfdisk -no-reread --force /dev/sda < disk1p.sfdisk
[root@bootstrap-0 mnt]#
```

- ▶ Script and Partition Table Used:

- ▶ <https://gist.github.com/glennewest/77105e67828b345a9d1edf87d5bbcd63>

- ▶ Result:

```
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Disk /dev/sda: 160 GiB, 171798691840 bytes, 335544320 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disklabel type: gpt
Disk identifier: 419D36CB-3841-4CD2-A57B-969810C42530
```

Device	Start	End	Sectors	Size	Type
/dev/sda1	2048	788479	786432	384M	Linux filesystem
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/dev/sda4	1050624	11587583	10536960	5G	Linux filesystem
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```
[root@bootstrap-0 core]#
```

Test Cases

- ▶ Verify and Document new separate root/initrd pxe boot works
 - ▶ Verified
- ▶ Verify and Document new bare metal pxe boot arguments
 - ▶ Verified and Documented
- ▶ Single Node – Clean Disk, verify new partition 5 is created
 - ▶ Verified and Documented