2019 05 22 Learning about "Boot Loader Specification" For naxos The F30 install failed to create the ability to boot to previous versions of Fedora on the same SSD. os-prober seems to be the problem. Creation of /etc/grub.d/40 custom solved this problem [root@naxos:/etc/grub.d]\$ cat 40\_custom #!/usr/bin/sh exec tail -n +3 \$0 # This file provides an easy way to add custom menu entries. Simply type the # menu entries you want to add after this comment. Be careful not to change # the 'exec tail' line above. menuentry 'ja 29 custom ' { insmod part\_gpt insmod ext2 search --no-floppy --fs-uuid --set=root la9ccefl-aflc-4c26-8e4d-64a25bc56fcc linux /boot/vmlinuz-5.0.16-200.fc29.x86 64 root=UUID=1a9ccef1-af1c-4c26-8e4d-64a25bc56fcc initrd /boot/initramfs-5.0.16-200.fc29.x86\_64.img } //------However F30 seems to use BLS type booting This approach was tested as follows A BLS file was created /boot/loader/entries/cbd7d61577804f63b0c0909c1cb5fff8-5.0.16-200.fc29.x86\_64.conf by copying 77d7a92bb0374635a7212709d7339559-5.0.16-300.fc30.x86 64.conf and reading /home/ja/hints\_info/F30/BLS.pdf, particularly the example shown. The resultant file is as follows [root@naxos:/boot/loader/entries]\$ cat cbd7d61577804f63b0c0909c1cb5fff8-5.0.16-200.fc29.x86\_64.conf title Fedora 29 ja test version 5.0.16-200.fc29.x86\_64 linux /boot/ja\_F29/vmlinuz-5.0.16-200.fc29.x86\_64 initrd /boot/ja\_F29/initramfs-5.0.16-200.fc29.x86\_64.img options root=UUTD=1a9ccef1-af1c-4c26-8e4d-64a25bc56fcc grub\_users \$grub\_users grub\_arg --unrestricted grub class kernel x64 architecture //-----Obviously the entries in this file are "fixed" : Designated kernel/initramfs versions Designated SSD partition As suggested in BLS.pdf the required F29 kernel/initramfs were located in a separate directory on the /boot partition. /boot/ja\_F29/vmlinuz-5.0.16-200.fc29.x86\_64 /boot/ja\_F29/initramfs-5.0.16-200.fc29.x86\_64.img The / (root) partition for F29 was selected using blkid -c /dev/null /dev/nvme0n1p7: LABEL="naxos7\_F29" UUID="1a9ccef1-af1c-4c26-8e4d-64a25bc56fcc" TYPE="ext4" PARTLABEL= //-----This configuration booted successfully to F29 !! //-----Is this the right way of doing thing????!!!! If the OS is installed on a disk with GPT disk label, and a partition with the GPT type GUID of bc13c2ff-59e6-4262-a352-b275fd6f7172 already exists, it should be used as \$BOOT. This is true for naxos partition 1. (Only 200MB) Otherwise, if the OS is installed on a disk with GPT disk label, and an ESP partition (i.e. with the GPT type UID of c12a7328-f81f-11d2-ba4b-00a0c93ec93b ) already exists and is large enough (let's say 250MB ) and otherwise qualifies, it should be used as \$BOOT`. Otherwise, if the OS is installed on a disk with GPT disk label, and if the ESP partition already exists but is too small, a new suitably sized (let's say 500MB) partition with GPT type GUID of bc13c2ff-59e6-4262-a352-b275fd6f7172 shall be created and it should be used as \$B00T. Otherwise, if the OS is installed on a disk with GPT disk label, and no ESP partition exists yet, a new suitably sized (let's say 500MB) ESP should be created and should be used as \$B00T. This placeholder file system shall be determined during installation time, and an fstab entry may be created. It should be mounted to either /boot/ or /efi/. Additional locations like /boot/efi/, with /boot/ being a separate file system, might be supported by implementations. This is not recommended because the mounting of \$BOOT is then dependent on and requires the mounting of the intermediate file system.